

"O FORTUNATOS NIMIUM SUA SI BONA NORINT "AGRICOLAS." Virg.

NEW SERIES.]

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AMERICAN FARMER

RURAL REGISTER.

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Vol. II .- No. 9.7

SEPTEMBER, 1873.

NEW SERIES.

On the Cultivation of Wheat.

In our August No. we gave sundry hints on the preliminaries necessary for a crop of Wheat, and we now propose to continue our remarks upon other branches of its culture. We beg our readers to bear in mind what has been urged as to the soil, the manures necessary, the ploughing and the subsequent preparation of the ground, for our space fails us to say all that we would wish upon the cultivation of this all-important crop to the great majority of the farmers of our country. It is emphatically a money crop, and its cultivation is attended with so many casualties, that every precaution to secure success should be availed of. We have cause of thankfulness that the crop just harvested has turned out so well, and, if we have not a full average, yet the satisfaction is enjoyed that it is, generally speaking, a paying one; and seldom have we had a more seasonable time for harvesting it, nor has a more beautiful quality of grain often been garnered into the bins of the farmer.

Although we have said so much on the value of deep ploughing, we must, before leaving that part of our subject, mention a circumstance, well attested, of its advantages. A farmer ploughed a field for corn with two yoke of oxen to a 12 inch plough, turning up dirt that never saw light before. In a field adjoining a renter was at the same time ploughing for corn; ploughing as most renters do plough, in a way so as not to hurt their teams—(not deep.) The two fields were

planted at the same time. About the time that the corn was up, the renter took a notion to migrate, and sold out his interest in the crop. The two fields were tended alike.-Through the growing season a marked difference could be seen in the growth of the corn. In the fall, the men who helped to do the work said that there were two bushels on the ground of the deep ploughing to one on the rented ground, as it was called. The following season both fields were sown to wheat of the same variety, put in the same way, and as near as possible at the same time. The grain of the two fields was threshed by the same machine. The field of the deep ploughing averaged 224 bushels to the acre; that of the shallow ploughed not quite 14 bushels to the acre. The difference in the yield of the corn and the wheat in any other way than from the difference in the ploughing, could not be accounted for.

Manures and their application.—We alluded in our last to the best soil for wheat, and showed that a clover ley, and we would add, grass swards, and land rich in organic remains, were the best for the crop. 1. Upon such lands, an improvement would be made by the application of 150 to 200 lbs. Peruvian guano per acre, prepared as advised in the article on another page upon this subject—or when the guano is sifted through a sieve as therein directed, the lumps should be moistened with strong brine made of salt and water, and after remaining a few hours, the lumps should be pulverized either with a mallet or the back of a shovel, and then, in proportion

of 100 lbs. of guano to a peck of plaster and half a bushel of salt, (the latter to be made fine,) or sharp sand, should be intimately mixed together, sown broadcast carefully, so as to ensure an equal distribution of the allotted quantity of guano per acre, and har-rowed in lightly as soon after being sown as

By moistening the guano with salt brine, an immediate union between the muriatic acid of the saft and the already formed ammonia of the guano takes place, and thus an involatile or fixed salt—the muriate of ammonia-is formed, so that no loss from the escape of the ammonia occurs, and hence one of the most important constituents of the guano is preserved for feeding the crop-is thus preserved from all possible impairment of its value until turned in; where, by uniting in the soil with the muriatic acid of the salt and the sulphuric acid of the plaster, with which it is mixed, its most active principle is kept in reserve, to supply the roots of the plants with the elements of nitrogen, as their necessities may require. Again, the offensive odor of the guano being by the salt brine arrested, it is rendered pleasant to the hands to sow.

2. To thin exhausted soils give a third more of guano mixed with 5 double horse cart loads of mould, marsh or river mud, per acre, intimately mixed with 1 peck plaster and half a bushel salt, which mixture, after being thoroughly shoveled over, plough in, harrow the ground, and then top-dress with 5 bushels per

acre of ashes, or 50 lbs. kainit.

8. If stable or barn-yard manure be applied, to every 20 double horse cart loads of it add a bushel plaster and 2 of salt, layer and layer about, shovel it over and mix it well, and give to each acre 10 loads of the compost, plough

it in and roll.

4. Five bushels bone dust dissolved in dilute sulphuric acid, (or an equivalent amount of a good superphosphate,) mixed with 5 bushels ashes, 1 of plaster, a double horse cart of loam or river mud, and harrowed in, will make an efficient dressing for an acre of wheat, and bear seeding to clover.

5. Ten loads river mud mixed with 5 loads stable or barn-yard manure, 1 bushel plaster, and 2 of salt, well incorporated, will answer for an acre of wheat and clover afterwards—

to be ploughed in.

6. Ten double horse cart loads of river, marsh mud or woods mould and leaves, mixed with 3 bushels bone dust, a bushel plaster and 10 of ashes, per acre, will ensure a good crop of wheat and clover-let it remain in bulk two or three weeks, then shovel it over, and apply it to the land and plough it in.

Ten bushels ashes and 5 do, bone-dust, mixed with 10 bushels marsh or river muck, will make an excellent dressing for an acre of wheat—put it into pie, and let it remain for 7 to 10 days, then shovel it over, spread,

and harrow the ground.

8. The marsh mud or muck, as in No. 7, mixed layer and layer about, with 100 lbs. Guano and a peck of plaster ploughed in

would also be an admirable dressing for an acre of wheat-or,

9. The ten loads woods mould, 100 lbs. guano, 5 bushels ashes, 2 do. salt and half bushel plaster would make as good a dress-ing for an acre of wheat as could be desired mix well together, and let it lay in bulk two weeks before using, and then plough it in.

10. Ten bushels ashes, 300 lbs. chandler's greaves, shaved down, 1 bushel plaster and 5 do. fine charcoal, mixed with 2 double-horse cart-loads marsh or river mud, and ploughed in, would make a dressing for an acre of wheat that cannot well be surpassed—or.

11. Ten loads of mud, muck, &c. (as above) or any kindred matter, saturated with as much urine as your forethought may have provided, to the extent of 200 gallons if you can do so, in which stir in a bushel of plaster, will be a dressing of great value, and would produce as good a crop as would 200 lbs. best Peruvian guano.

We give these formulas in addition to those in our Aug. No. and others by our correspondents in that and the present number, from which the farmer may select to suit his own convenience or circumstances. the quantity in each cannot be had, handily, take such proportions as may be obtainable. In all such cases the farmer must exercise his own judgment, and do the best he can under the circumstances. We do our duty by pointing out the matters suitable for the crop, and every one interested can determine how far any of these formulas will suit his case.

Preparation of Seed .- A very important item in the cultivation of wheat is the condition of the seed sown, not only to avoid the filth too often found in the grain, but also to escape the dangers from the larvæ of the Hessian fly. Late sowing is considered as a preventive of the latter, but in passing by Charybdis, we are apt to fall into the jaws of Sylla, running the risk of the rust. We must therefore depend upon the most usual time of sowing, and endeavor to sow the seed in as good and cleanly a condition as possible. Mr. John Delafield, in a general view and agricultural survey of the county of Seneca, N. Y., taken under the direction of the N. Y. State Agricultural Society, tells us that the Hessian fly has ceased to be a formidable enemy there, probably for two reasons: "First, the period of sowing the seed grain has been retarded until a period too late to offer a nidus to the fly; and second, the soil is better prepared, by due fertility, to give the plant vigor to resist the influence of the larvæ."

The remedial measures which have been enumerated either imply the presence of the Hessian fly in destructive abundance, or contemplate invasions from neighboring districts. They may be thus briefly summed up for winter wheat:

Have your soil in good heart and order.
 Drain as much as is consistent with true

economy, and plough deep,

Sow late an approved flinty-stemmed variety, and an early ripener.

4. Prepare the seed for rapid germination and growth by steeping, and afterwards dry-

ing in some special manure.

In H. V. Hind's prize essay on insects injurious to wheat, it is recommended to avoid their ravages, "1. a fertile soil; 2. late sowing, objections to which is the danger of winter-killing, rust and wheat midge; 3. grazing; 4. the roller, which shakes off the eggs and crushes the young worms; 5. mowing, to exterminate the second or spring-brood from a wheat field; 6. fly-proof wheats, or such as have a strong stiff stem; and 7. steeps for the seed, by which the growth may be accelerated, and the steeps may be made to possess great fertilizing qualities, being also frequently employed as a preventive to smut."

Mr. Pell, of Penam, N. Y., prepared his seed wheat by soaking in brine, scalding with hot water containing common salt, mixing with pearl ashes, and when distributed nicely over a barn-floor by sifting a composition containing charcoal dust; guano, sulphate of animonia, and various other mineral ingredients over it. At the expiration of fifteen days the wheat was so far above ground as to be pronounced by a neighbor far in advance of his which had been sown in the usual way on the first of September, nearly four days earlier. The crop weighed 65 lbs. per bushel, and was eminently rich in gluten, containing 18 per cent. The yield per acre was about 70 bushels; he sowed at the rate of 24 bushels to the acre.

In steeping or pickling wheat in strong chamber lye, a practice both common and beneficial, the use of lime for drying should by all means be avoided. Gypsum should be employed instead; but of all substances, finely powdered charcoal, as a most efficacious absorbent of the ammonia of the urine, is to be

recommended. An observant writer remarks that "it is curious that one embryo should feed upon and wholly destroy another. When a farmer sows smutty wheat, the seed is covered with the microscopic sporules of a parasite. These embryos are small enough to enter the pores in the roots of wheat plants when in blossom, pass up through tubes almost inconceivably small to the forming seed; and there, within the glumes and cuticles that surround the first embryos of wheat, consume the whole of their starch, sugar, gluten and albumen, making a perfect smut-head, in place of cereals that will yield to man good flour. If every farmer did not know, from what his eyes have seen, that between the death of seed wheat planted and its offspring for the next harvest, there is often such a blight as we have named, we should not blame him for disbelieving our statement, it appears so improbable. But at least one thousand direct experiments have proved that, to kill the smut germs on seed wheat by washing it well in bluestone solution, or in strong brine, will prevent this injury to the crop.

Mr. Mechi, of Tiptree Hall, (Eng.,) whose mode of farming appeared in the Furmer of last month, in answer to a Canadian farmer, whose crop had been ruined by rust, gives the following as his recipe—he says: "I consider it to be of immense importance to our colonies that the farmers there should steep their wheat and thus avoid rust and smut, for rust especially entails immense losses. A comparative trial, with and without steeping, would remove any doubt

would remove any doubt.

"We use 1 lb. of bluestone (sulphate of copper,) dissolved in 10 pints of water, to each sack (4 imperial bushels) of wheat. The wheat is either soaked in the solution for ten minutes, or the solution is poured over and intermixed with it until it is absorbed. I have almost invariably found that wheat sent to me from our colonies became rusted and worthless."

A.Mr. Ch. Clinch, of Western Australia, in a letter begs the advice of Mr. Mechi as to the best remedy for the damages done by the red rust in that colony, by which he says the crops in some parts of the colony are entirely destroyed, and throughout more or less affected, which will, it is feared, completely paralyze the exertions of many, and others be totally ruined, and adds, that he would also ask whether lime and salt spread on the land would be a likely antidote to rust. To which Mr. Mechi replied as follows: "I have had no experience with lime and salt, although I have heard of it being used as a dressing for the seed. The sulphate of copper (bluestone) is, as far as my experience goes, a certain preventive. I believe the mischief is in or on the seed. In England, we suffer most with bladder or smutty ears where seed is unsteeped. The fine colonial wheat which I have sown always promise well, and look healthy until the development of the head. and then become destroyed by the rust. In future I shall try a part steeped and unsteeped of any colonial samples I may receive.'

Some persons we know urge that the smut in wheat is not averted by the use of bluestone—among others, our intelligent correspondent, Mr. Garden, of Buckingham, Va., but we believe the preponderance of testimony both in Great Britain and in this country continues to favor its application, as indicated above.

Varieties.—The varieties of wheat will be determined by each cultivator as suitable for his location, situation and climate. In other pages several varieties are spoken of as pecularly valuable, being very prolific and early.

Drilling or Broadcasting.—If a proper preparation of the soil has been regarded—good ploughing, rolling and harrowing having brought the land to a fine state of pulverization—then, undoubtedly, it is preferable to put in the seed with the drill, the usefulness of which we have already dilated upon, especially in our July No.; but if, on the contrary, the land is not in good order, or fine tilth, then broadcast seeding must be adopt-

ed; in any event, before seeding the wheat,

the soil should be rolled.

Time of Seeding .- This, too, is a question to be decided by every wheat-grower for himself. Those who have continued to grow the Mediterranean deem it best to sow early, some beginning as early as the first week in Sept., whilst others, and the larger number we believe, consider it safest to sow between the middle of this month and the 10th of October.

Depth of Covering Seed .- The seed should not be covered more than 3, nor less than 1 inch. Careful experiments which have been made show that 11 to 2 inches is the safest guage, the seed coming up more uniformly and quicker than when put in deeper, and less liable to waste than when put in at a less depth. The drill puts the operation of seeding completely within the control of the operator, which is of great importance in regulating the depth. If put in with the harrow, the teeth should be so graduated as not to penetrate the soil more than 2 or 3 inches at farthest. The seeding of wheat is a nice operation, and should be trusted only to most careful hands, as much of the success of the crop depends upon it. As already remarked, deep ploughing, the faithful use of the harrow and roller are great helps in the cultivation of any crop, and to none is it more advan-tageous than that of wheat.

Quantity of Seed .- If sown with the drill, it is universally admitted that a bushel and a peck is sufficient for an acre; if broadcasted, then two bushels will not be too heavy-a saving of no inconsiderable amount, the difference going very far towards paying the cost of a drill, in a seeding of one hundred acres. It would be advisable for two or three neighbors to join in procuring a drill, although as a general rule we do not much approve of partnerships in such cases-but as we have shown, we think with much clearness, there are many and very essential ad-

vantages in the use of the Drill.

Water Furrows .- The field should be waterfurrowed after the wheat is seeded-run the furrows so as to convey water away quickly; nothing is more injurious to the healthful condition of the wheat plants than water lying on them through the winter and early spring. The furrows, after being made, should be cross-rolled, thereby giving solidity to their sides-and through the winter clean out these furrows, so that there may be no impediment to the free passage of the water through them.

The official inspector of Fertilizers in the State of Georgia estimates that the people of that State alone pay over ten millions of dollars a year for commercial fertilizers. It is estimated by those in position to know, that more than three hundred thousand tons pass through the city of Charleston, S. C., every year, that more than a hundred thousand tons a year pass over the Georgia Central Railroad and other points in that State.

The Temperament of Soils and Special Fertilizers.

(From "Pure Fertilizers," by Dr. Campbell Morfit.)

Practically, the object of fertilizers is to cause small areas of land to produce the crops of very much larger ones, with the least possible amount of labor. Chemically, they are the food of plants, and act in a two-fold manner; first, by nourishing them directly; and, secondly, by transmuting the inert matters of the soil into forms and conditions which will promote the growth of vegetation.

A seed which may be sown, although it is the germ of a crop, has no power to vegetate and ripen, except through the means of ex-

ternal stimulants.

In all the stages of vegetable growth the physical structure of the soil is only less important than its chemical composition. It must be neither too porous, like sand, nor too compact, like clay; but should have a temperament midway between the two.— Hence in many fields it is as necessary as the application of fertilizers, to make an adjustment of this mature by suitable mixture of different kinds of soil.

A soil, to be fertile, should contain the fol-

lowing elements:

Sand, clay, gravel, as its mechanical agents; organic matters containing humus, nitrate, ammoniacal salts, potassa, as its assimilable and active agents.

Soda, lime, magnesia, oxide of iron, oxide of manganese, sulphurie acid, phosphoric acid, (partly soluble,) silicic acid (soluble,) chlorine,

as its mineral agents.

In addition, there should be a reserve of rocks and organic matters, from which the decomposing influences of air, time and the soil, will eliminate the foregoing elements at later periods, as will be necessary to insure a

permanent fertility.

The mechanical portion serves to facilitate the passage of water through the soil; and, consequently, to precede its chemical action in the premises. This action consists in absorbing and dissolving carbonic acid, ammonia, and other desirable elements from the air and the soil, and rendering assimilable by these means the elements of the latter, which otherwise would remain inert. Thus it assists, not only directly, but indirectly, in the nutrition of plants, and more particularly, in the development of their organic portion. A clay soil requires, therefore, to be deeply ploughed.

The inorganic portion derives its constitution from the mineral elements of the soil. By repeated cropping, a soil becomes exhausted of its fertilizing elements; and they must be restored, therefore, from time to time, by means of deep ploughing and the applica-

tion of manures.

All plants are not alike, either as to the quality or quantity of their food; that is, certain species are so far eclectic in this respect, as to exercise a greater avidity for the kind which is richest in their predominant element. Therefore, each of the great families of plants must be manured according to its peculiar appetite. Thus, for example, nitrogen and phosphate of lime are the preferred nutriment of the cereals, including cotton; nitrogen and potassa are the choice of the leguminous class; and phosphatea, potassa, and nitrogen, that of the roots. The gramineous family differs very little from the roots

in its appetite.

But even though one of these elements may be dominant in distinct or individual crops, the latter cannot attain to a normal or abundant harvest, unless their peculiar food in the soil is associated, in degree at least, with all of the other requisite elements. The fertilizer is to be applied to the soil and intermixed thoroughly with the surrounding earth from the roots upwards. Its components must be in condition for acting together within a given time, in order to produce a wholesome growth of the crops. Indeed, it is expedient to have a portion of the fertilizer in active forms, so that in the early stage of the development of the plants, the latter may acquire that vigorous constitution which will enable its organs to exert all their powers of assimilation and progress to a fruitful maturity.

Saline manures, or those directly soluble, are liable to diminish the crops on light soils and in dry seasons, more particularly when they may be mixed in injudicious or excessive proportions. The more favorable season for applying them, therefore, is a wet one, which will promote their thorough diffusion through

the soil.

Keeping in view the foregoing principles, then, the following skeleton formula will represent a fertilizer of just constituent relations for general purposes:

These are the prime elements of fertilization; but, being always accompanied in natural soil or artificial fertilizers with the necessary associate elements of plants, they constitute a complete manure for any crops.

The proportion of 250 to 300 lbs of manure containing these three prime elements in the percentage ratio above noted, will suffice to stimulate an acre of ground into the production of an abundant harvest, and leave behind some residue for the succeeding year's crops. From this reserve, however, the predominant element of the harvested crops will have been almost or nearly, entirely exhausted.

almost, or nearly, entirely exhausted.

This fact must be remembered in the rotation of crops; so that in making one kind succeed another, the elementary relations of the subsequent fertilizer may be modified accordingly. In other words, having grown a crop of roots this year on a plot of ground manured with the normal fertilizer, then, if it is desired to prepare that plot the next year for a harvest of cereals, care must be observed to make the fertilizer richer in phosphate, so as to restore the normal condition of the soil

which has been disturbed by the peculiar exigency of the previous root-crop as to that element.

Such are the simple rules which should regulate the composition and application of special fertilizers; and, if faithfully practised, will, with the divine favor of rain and sunshine, eventuate in successful cultivation and profitable harvests.

On the Use and Value of Peruvian Guano, and the Means of Increasing its Efficacy.

From a paper on this subject, from the pen of Prof. Voelcker, of the Royal Agricultural Society of England, we make the following extracts:

Peruvian guano, like well-made farmyard manure, has been found to benefit more or less all kinds of crops grown on every description of land. For this reason it is considered a more universal fertilizer than artificial manures, which, like nitrate of soda, wool-refuse, horn-shavings, &c., exercise a beneficial action upon vegetation solely in virtue of their nitrogen, and consequently should only be used in special cases and with great discrimination, especially on soils defi-cient in the mineral substances found in the ashes of the plants. We find in it in a concentrated state the most valuable fertilizing constituents, and do not meet in it with substances-which are abundantly distributed throughout most soils, and may be dispensed with in concentrated manure. But although it contains potash, soda, chloride of sodium, lime, magnesia, oxide of iron, phosphoric acid, sulphuric acid and silica, or nearly all ash constituents of plants, the large amount of ammoniacal salts and nitrogenous organic matter which enter into it chiefly determine its commercial and agricultural value. Peruvian guano contains from six to seven per cent. of ready formed ammonia, and an amount of nitrogenous organic constituents which, on decomposition, yield about twelve per cent. of ammonia. The phosphates which guano contains—bone-earth in a finely divided state to the extent of twenty-two to twentyfour per cent.-as well as its soluble alkaline phosphates, are presented in a very valuable shape; its alkalies, specially the potash, will much benefit crops on light soils, which are generally deficient in this element. If it were true that the proportion of nitrogen in the organic matters and of ammoniacal salts in manures, solely determined their efficacy and value in reference to all crops, in all climates, and on every description of soil, Peruvian guano perhaps would be pre-eminently the most valuable artificial manure. We know, however, very well that this large supply of nitrogen is in some cases of no use whatever, and in others exercises a decidedly injurious effect. There are clay soils in Gloucestershire, Herefordshire and other counties on which the application of

ammoniacal salts to root crops often diminishes the crop, and at the best is of no benefit whatever to the swedes or turnips. Again, on light sandy soils, although for a time highly nitrogenous manures may largely increase the yield of corn, [wheat,] yet their exclusive and long-continued use leads to a rapid exhaustion of the soil in those mineral constituents, of which an abundant supply is required by all cultivated plants. On the other hand, there are certain loamy soils on which Peruvian guano is used with great advantage for grass and corn crops, especially as a top-dressing for wheat and barley; and the only question which arises is whether the required nitrogen is more economically applied to the land in that shape than as a nitrate of soda,

sulphate of ammonia, soot, &c.

When guano is used as a top-dressing, or is drilled in, more care should be taken than is frequently bestowed to apply it in a good mechanical condition. It should never be sown without having been submitted to the rather tedious and unpleasant process of sifting and grinding into a fine powder. The hard lumps, varying from the size of a pea to that of an egg, which always occur in good Peruvian guano, do not materially differ in composition from the finer particles, and should be reduced to as fine a powder as the rest. If guano is sown without such preparation, the fine dust will be carried away too readily by the wind, and the coarser portions will fall too much together in one place. In consequence of this unequal distribution the young plants will be burned up where the lumps drop, near by there will be a rank growth, and the crop will ripen unequally. The danger arising from unequal distribution is less when the manure is applied to the land in autumn before sowing the seed-corn. This practice should be adopted in all cases in which the soil contains a fair amount of clay, which, in virtue of its well-known absorbing properties, retains the fertilizing constituents of guano, so that the rain falling during the winter months, instead of removing the most valuable manuring substances, as in the case of light sandy soils, has the advantage of disseminating them uniformly through the soil.

It has been recommended to sift the guano, to spread the lumps retained by the sieve on a clean stone floor, and to pass a garden roller over them, or to beat them down with the back of a shovel or a turf-beater. It is extremely difficult, however, to reduce them to a sufficiently fine powder. Even grinding under a millstone does not answer the purpose, for guano is very apt to cake under the stone. It therefore requires to be mixed with some material which counteracts the tendency to cake. Gypsum, fine ashes, salt, charcoaldust and dry soil are some of the materials that have been recommended. Gypsum, however, does not prevent the caking; it therefore is ill-suited for the purpose. Salt, likewise, is objectionable, for it gives the guano a moist appearance, and rather increases than diminishes the difficulty. Finely-sifted coal or wood ashes, charcoal-dust and dry soil answer better, but perhaps the best material for effecting the reduction of guano to a fine powder is sharp sand.

The proper way of proceeding is first to sift off all the fine guano dust, then to mix the hard lumps left in the sieve with about twice their bulk of sand, to spread the mixture on an even floor, and to pass a heavy roller over it, or to beat down the lumps with a wooden mallet. The admixture of sand prevents the caking of the guano, and greatly facilitates its reduction to fine powder. After the whole has gone through the sieve, salt in the proportion of two parts by weight to one of guano may be added with great advantage. The moisture imparted to the guano by the salt prevents the dusting, which is so great an inconvenience in sowing it by hand. in conjunction with guano, moreover, has a specific action on vegetables, which is specially beneficial to corn crops on light soils.

Bones, Horn, Hair, &c.

The following are extracts from an essay by Prof. A. H. Church, in Transactions of the Highland Agricultural Society for 1872:-

Bones are well known to be an excellent manure, both for roots and grains. ing of bones, when not carried too far, quickens their action as manure, and does not impair their power; but if steamed under pressure they lose the greater part of their nitrogenous substance, and leave phosphate of lime as their chief manurial ingredient. Generally, when a bone has lost part of its nitrogenous constituents, the remaining phosphate becomes less apt to dissolve; and thus our endeavors to devise a plan for developing the action of bones as manure will have this end in view, to make the phosphatic matter they contain as rapidly available for plant nutrition as the nitrogenous constituent is. Oil of vitriol, we know, accomplishes this result; pulverization tends to produce the same effect; while the mere admixture of putrescent matters, such as a proper compost heap contains, will afford another mode of attaining the same end. When animal refuse, containing some bony fragments, is steamed and subjected to considerable pressure, the product has great manurial virtue, as the subjoined analysis will show:

Phosphorus pentoxide.....2.1 per cent. Potential ammonia.....8.0

Horns, hoofs, hair, wool, &c., are all, more or less, related in composition to the osseine of bones; and by gentle roasting or steaming may be made to yield valuable food to plants.

The skin and hair from tanneries, known as trotter seutch, though variable in composition, contains considerable manurial richness; and the offensive smell which it yields may be neutralized by sprinkling spent animal charcoal from sugar refineries, or of dry peaty earth.

Fish Refuse.—Fish have long been used as manure; and there is indeed a peculiar appropriateness in returning to the land every kind of valuable matter which can be recovered from the sea. Whatever we get back again from the sea, is an almost unexpected gain; and this restoration of the elements of fertility, through the agency of sea-weed, of potassium compounds derived from sea-water, of guano, and of sea-fish, and their debris, is a most important link in the circulation of matter.

There is a sort of artificial fish-guano, of great concentration, that of late years has been successfully manufactured in Europe, and chiefly prepared from the liver, heads and refuse matters of the Newfoundland and Norwegian cod-fisheries; a portion, however, is manufactured from the waste of herrings and sardines. The following analysis will give a general idea of the value of the Norwegian cod-quano:

Potential ammonia..... 9.4 per eent. Phosphorus pentoxide....19.1

Potash 4.7

N. CAROLINA—THE CROPS—FREIGHTS— MANURES—DEEP PLOUGHING, &c.—A correspondent, writing for turnip seed, adds the following remarks:—

"Wheat crop in this county one-half; noats a full crop; upland corn one-half, in consequence of 30 days drought at its most critical period of growth. I want more lime and plaster; but ten to fifteen dollars transportation per ton from Baltimore to Statesville puts up a bar between me and its use. 'What are we to do?' I shall put myself on stable, barn-yard, muck, ashes, &c. My object is to enrich the land, rather than to look for heavy and direct returns, &c. If in 4 or 5 years I can add from \$50 to \$100 increased valuation to an acre of land, I shall have done well.—We are now having full and copious showers, beginning 27th July. The well-to-do farmers here have woke up very much this year to plough deep and close!

"A considerable sprinkling of bone meal from Baltimore is in use here for cotton this year, and where it was put on poor land the cotton took an early and beautiful start at first, and now, for want of other food, the plants have ceased to grow and are shedding their leaves; but on good land the bones are telling at the rate of 100 per cent. Why is it farmers are so hard to learn? Man, as well as other animals, may be starved to death on only one kind of nutriment. By means of your inestimable Farmer you have taught many men valuable lessons; but you have only begun; adjust your harness, begin with fresh resolution, and continue on in your noble undertaking, and a happy success will nitimately crown all your labors.

ultimately crown all your labors.

Truly yours, D. BRADWELL, M. D. Iredell Co., N. C., July 27, 1873.

Cultivation of the Cranberry.

This is not the best season for beginning a plantation of this berry, but as a correspondent asks us for some information upon its culture, and as all new enterprises should have due time to consider their feasibility, we will as briefly as we can, present such information as we may have at hand of a reliable character.

The Cranberry appears to have been first introduced and cultivated in the vicinity of Cape Cod about the beginning of the present century, and has extended somewhat to other states; but we believe that more attention has been given to it in New Jersey than elsewhere. The Rev. Jas. Bolton, of that state we believe, says of it, that it is so hardy and tenacious of life that it will live and grow if set out at almost any season of the year. In his state, the month of May is considered the best time for setting, although some think the early part of June does equally well. Farther south they might be set out earlier—almost any time during the month of April. Some beds have been set out in the autumn, but experience and observation show that the spring is the most favorable season,

The best soil is a peaty, or a silicious moist soil, and continuous success in cultivation has been achieved upon such soils only. Prof. Agassiz says, "never use the drift formation in preparing cranberry grounds-use silicious sand that has been entirely separated from loam by the action of water"—and an experienced grower in Jersey says that the plant is at home only in sand, peat and water. Another gives as the requisites for its cultivation, first, a peat or muck soil, free from loam or clay; second, clean beach sand for covering the peat; third, a dam and water to overflow the vines, when necessary; fourth, thorough drainage. Except upon the sea-coast, where the rigor of the climate is modified by sea breezes, this crop seems to be attended with much risk from the frost, unless grown in fields which can be readily flooded. Mr. Bolton says the best implement for setting out the plant is a round, sharp-pointed tool, about a foot long, with a socket in the top for the handle. A hole may be bored through the handle, just above the socket, and a small iron pin inserted, about eight inches long, at right angles with the handle, to serve as a point on which to place the foot, and force the tool into the ground the required depth. The usual mode is to set the vines in straight rows about eighteen inches apart each way. Having made the hole with the implement above described, from six to eight inches in depth, insert three vines into it with a stick adapted to the purpose, taking care that the vines go to the bottom of the hole, and that they are well imbedded in the muck, and then close up the ground tight around the vines, from the bottom of the hole to the top,

and so continue until the whole patch is disposed of in like manner. Good, trusty hands should be employed in setting the vines, for unless the work is well done the vines will not thrive. They must go through the sand, and have a good hold upon the muck or peat beneath, and the ground must be well packed around them. It is found that the cultivated vines are not so good for setting as the wild These can be obtained in any quantity from the regular dealers near Manchester and Toms River, in Ocean county, New Jersey, where they grow naturally, and from whence large quantities are sent to various parts of the country. Excellent vines can also be procured along the Cedar creek, Sussex county. Delaware. They are not sold by the hundred, but by the barrel or bushel. There are two varieties in common use, known as the Cherry and the Bell varieties. They are so called from the shape of the berries which they produce; and they are both equally good -the only difference being that the Bell variety produces the largest berries, but not quite so many in quantity as the Cherry .-The usual price is about two dollars and a The quantity of vines rehalf per barrel. quired per acre varies somewhat, but from ten to twelve barrels per acre are sufficient.

It is well not to spread the sand on the surface until about the time of setting out the vines, as it will then have greater influence in keeping down the grass, bushes, &c. Great care must be taken to keep the bog clear of weeds until the vines completely cover the ground, which will be in about three years. provided the vines do well; and after this both grass and weeds will have but little chance. The third year after setting usually brings the first crop, although generally it is not a full one. The first year the vines will produce a few berries; the second, scarcely any; the third, a moderate crop; the fourth, a better one, and the fifth year the crop should be a good and a profitable one. The con of a cranberry bed will be seen to be considerable, amounting in the general average to from three to four hundred dollars per acre; but there is this to be taken into account by way of compensation, when it is well made on land adapted to the vines, and well cared for, it lasts a lifetime. In fine, there is no wear out to it. A strawberry bed must be renewed every three years; a cranberry bed will last for generations. The question may be asked here, will cranberries pay at an expense of four hundred dollars per acre, in preparing the ground? The best answer to this is a statement of facts. Some years ago Mrs. Winslow, of Brewster, Barnstable county, Mass., realized a thousand dollars in one year from a single acre. Good bogs in Ocean county are now averaging about six hundred dollars per acre. Cranberries have a marked advantage over peaches, strawberries and other fruits, in the matter of marketing. The former will keep for months, not being a perishable article, and it may be put in the market just as the demand calls for it, and the

price is satisfactory, while the latter when ripe must be sent to market immediately and sold for whatever they will bring. Of a hard and solid texture, it is the best adapted of all our berries for transportation and export, and hence there is but little glut in the market, as is the case with other berries and fruits.

In New Jersey, the average production may be placed at 100 bushels to the acre, or about 35 barrels. They have sold as high as \$16 per bushel, and seldom at a less price than \$4. They are exempt from decay when becoming ripe; are sold by all grocers and fruit men; always in season; and free from competition with other fruit; the consumption is constantly on the increase, and notwithstanding it has of late years increased in production, the price maintains, indeed exceeds the price formerly obtained for them.

Agricultural Calendar.

Work for the Month-September.

At this season of the year it is essential for the thorough-going farmer not only to have things well done, but also done at the right time and in their proper order. To accomplish this, a well matured system, determined upon after due reflection, and adhered to with as few interruptions as practicable, will be the most efficient aid. As a rule, farmers, we believe, fall too much into a habit of working by routine, and this routine, though probably in most cases that best adapted to their location and situation, ought not only occasionally but frequently to be brought to the test of examination as to whether it cannot be improved upon by the substitution of improved methods or utter changes. It must now be remembered that agriculture is progressive and not stationary

Preparation of Wheat Land.

—We have already, in the present and last month's issues, referred at such length to the subject of the culture of wheat, that we here only briefly allude to some of the most important facts on which great stress ought to be laid. Remember that wet land will not successfully grow this crop, and that good plowing and a fine tilth are necessary conditions of its doing well. Properly arranged waterfurrows, judiciously laid off and leveled, that the falling water may be quickly and certainly carried off, are also of great importance. All of these points have been elsewhere considered in greater detail than we can here give

them, and we refer readers to what has already been said on the various topics connected with the culture of this great crop.

Rye.—This grain, if not already seeded, should be gotten in now as soon as practicable. The advice given to so prepare the land that it will give good early pasture in spring, especially for sheep, is worthy of no-If the land is not in good heart, a liberal top-dressing will be found of service with this object in view. A mixture of salt, ashes and plaster would be a profitable application, in such proportions as may be convenient. The seed is by some soaked before sowing in brine, or lye, or a solution of saltpetre, but there does not exist the same necessity for this as for wheat, though probably such applications aid in securing the more rapid germination of the seed. For some details of culture of this grain, see August number.

Meadows.—To secure a good timothy meadow the soil must be good. Any natural deficiency must be supplied by artificial means, and lime, ashes and barn-yard manure are the base of the suitable applications. Plough the ground well, twice if practicable. Put 20 two-horse cart loads of good stable manure, or as near that quantity as you can afford, and turn it under shallow; add as much ashes as convenient and a few bushels of lime, harrow and cross-harrow, then sow your seed, harrow again and roll. Where timothy alone is sown, half a bushel to the acre is not too much, and the work should be performed as soon now as possible. Concerning meadows of mixed grasses see our last month's notes.

Making Manure.-This work is always in order, and you cannot be too assiduous or diligent in accomplishing it. On every farm, or within easy reach, and at the proper season readily handled, there is a great amount of material often wasted, and by its very waste doing injury, which, properly husbanded and managed, might add greatly to the size and value of your compost heaps, and as a consequence to your crops. The basis of all composts, that which gives value quickly and certainly to all the rest, is stable or barn-yard manure. After this, it may be put down as an axiom that everything is useful which ever had life, whether of animal or vegetable origin. To enumerate these would be tedious, but we instance leaves, pine shatters, swamp muck, peat, weeds and briers from the fence corners, marsh and river mud, road scrapings, old sods, waste from the house, ashes from the kitchen, slops, dead animals, &c., &c.

The best mode of treating these and kindred substances is to have prepared in the barn-yard a hollow, somewhat dished in shape, and mix in alternate layers manure from the stables and cow and pig pens, and all of the matters we have named which can be gathered together on or near the premises.

The time of a hand and a horse and cart will be well spent in most cases in accumulating materials. If the piles so made can be arranged so that occasionally they can be wet with liquor manure, or even with water, the fermentation will be more rapid. If, as the piles are built up as described, a good sprinkling of plaster be added to each layer its effect will be to save much of the liberated ammonia which might otherwise be wasted. The fermentation or decomposition must not be allowed to progress too far so that the materials are burned. When this stage is approached the piles should be turned over and more water added.

Where the liquid manure, or urine from the stables cannot be saved in its natural condition, provision should be made by which by suitable absorbents it may be taken up and so preserved. If the stalls are so constructed that it can be led off into pits or reservoirs it is then conveniently handled, but otherwise straw, leaves, pine shatters, muck or saw-dust are found convenient to take it up.

Those farmers who have not been accustomed to save and utilize the substances we refer to, would be surprised at the increase in the size and efficiency of their manure piles if they would once make the trial as we recommend above. The stable manure furnishes. the heat, through which many of the other materials mixed with it lose their hard and woody structure and become fit, by their decomposition, to serve as food for other and more useful plants. The changes which take place in the midst of a collection and breaking up of such numerous and dissimilar ingredients, animal, vegetable and mineral, as we have alluded to, are doubtless intricate and varied, but Nature loses little, and all of these changes will be found doubtless of a character to prepare these rough and hurtful substances to become of the highest service in building up new forms of vegetable life.

Lime and Marl.—Our readers know our opinion as to the amount of lime ordinarily required by lands in fair condition. Except on very stiff clays, or soils extremely rich in vegetable matters, 50 bushels of lime or 100 bushels of marl are sufficient to carry through the operations of a regular rotation. Applied this fall the lime will be mixed with the soil by the coming spring, and its action upon the crop then put in will begin. There cannot be fertility of land without lime, it being as essential an element as any other in the constitution of plants, but to fulfill this function is but a part of the important work which it performs in the laboratory of the earth. The inert, insoluble matters in soils become by its transmuting power changed into soluble, available plant food, and the very power which it thus possesses renders it liable to abuse. There must either be present, or be added by the farmer, supplies of vegetable substances, in order that there may be continually provided material upon which

the lime may operate and so replace those substances made assimilable and removed by the crops taken off. Hence the wisdom of the old distich:

Lime and lime without manure, Make both land and farmer poor.

Saving Corn Fodder.-An early frost very much harms the fodder, and it is better to be a little early than to run risk of this damage. Sowed corn which is fit to cut. is, according to our experience, best cured by piling around and against the fences, each day adding a fresh layer of stalks. A correspondent of the Southern Cultivator gives the following as his mode: I am in the habit of saving tops and sowed corn every year, and find no difficulty about it-a great deal less than in pulling fodder and saving it. My time for cutting sowed corn is when it matures. This can be ascertained by chewing it—If sweet, it is ready to cut. Tops can be cut one or two weeks before the fodder is ready to pull. My plan is to cut and shock up all the same day. If rain threatens, it can be shocked as fast as cut. Let a hand take up an armful of tops or cut corn and place the butt-ends down, at the same time another hand places down his armful at a suitable distance, and leans the tops of the two together, then keep on placing armfuls around the shock until it is of sufficient size, then place a band around the top and draw them together. Cap it off by placing three or four small armfuls around and above the top of the shock, butt-ends up; they should be placed evenly around, and secured by a band around the top of the butts. If the tops are wet when put up you need not be uneasy, the air will dry them, and they will cure just as well as that which is put up dry.

Planting Orchards.-If it is designed to plant out an orchard this fall, preparations for it should begin as soon as possible. The land should be well and deeply ploughed, and, if possible, subsoiled. If necessity imposes the choosing of a location which is not a favorable one, from the character of the soil as regards fertility, some pains should be taken to improve it. To do this well, decomposed barn-yard or stable manure, well rotted compost, or bone dust may be used, or all or either of these, with such additional supplies of ashes as may be procurable. Plough under, and mingle as well with the top soil as possible. Do not use fresh green manure. If you have no other, it will be preferable to plant your trees and use the manure as a top-dressing afterwards. Decide upon the varieties and the proportions you intend planting, send your orders in time to the nursery, and do not depend upon any chance tree-pedler to take your order. These are not the proper persons to buy from, much less to make selections of kinds for you, even if they send you what they profess.

We will next month add more on the subject of planting.

Ditching and Draining.—This is seasonable work, and wherever a field can be relieved by means of ditches, or covered drains, of an excess of moisture, an effort should be made to do so, since no lands which are wet can produce crops either of a quantity or quality such as do credit to good husbandry.

Fall Ploughing.—The benefits of this, except on very light soils, are so generally admitted, that we here allude to it as a thing of course to be done if at all practicable, and the earlier the better.

Farm Implements and Tools.

—This is a good time to gather these up, if scattered. Have all needful repairs made, and let such as are not likely to be needed any more this season be stored away in a suitable place under cover.

Mixture for Stock.—Equal parts of salt, lime and fine wood ashes well mixed together, and given in table-spoonful doses two or three times a week, will be found beneficial to cattle, horses, mules and swine. Sheep should have access to salt at all times, and pure water is necessary for stock of every sort.

LARGE YIELD OF WHEAT.—The largest yield of wheat yet reported is that raised on twelve-acres of ground on the Alexander farm in Shiloh valley, St. Clair county, Illinois, by John Westerich, which amounted to 538½ bushels, being but a fraction less than 45 bushels to the acre. The seed from which this wheat was raised came from the State of Pennsylvania, and is known as the Bolz variety.

[The above is clipped from Colman's Rural World, (Missouri)—the variety of wheat is probably the Fultz, which is of Pa. origin, and which may have been localized into Bols.—Eds. A. Far.]

CIDER VINEGAR.—We have often been surprised at the great haste exhibited by many orchardists to dispose of their cider as soon as it comes from the mill, when there is no product of the farm that so increases in value with age as cider. In the fall of 1870 we bought a barrel of cider for \$3 and put it into a dry cellar with the bung open. There it lay a year, and on examining it it proved to be good vinegar, and we sold it to a trader for \$10. Here was a net profit of more than 200 per cent. Hundreds of barrels of cider were sold from the town that year at 10 cents per gallon, all of which would have sold readily in a year at 30 cents per gallon.— Maine Farmer.

Correspondence.

Concentrated Manures-A word about their use.

Editors of the American Farmer:

The trade in concentrated manures is getting to be immense, and rapidly increasing; and here in Eastern Virginia, at least, they are regarded as indispensable to successful farming. Some of these concentrated manures are doubtless very valuable, not only in enabling the farmer to grow large and remunerative crops, but also enabling him to permanently improve his lands by clovering. On the other hand, it can not be denied that in many instances their use involves heavy loss. This loss results from two causes.—First, because immense frauds and adulterations are practised in their manufacture; and secondly, because of the extravagant and wasteful manner in which they are applied.

Generally, a good fertilizer will pay well on tobacco, but it is exceedingly difficult to make it pay upon wheat, and it is mostly in their application to the wheat crop that this

loss is sustained.

These fertilizers will not pay upon wheat unless the soil has been put in the right condition, and other circumstances happen to be

favorable.

In the use of the fertilizers, more particularly on the tobacco crop, the true policy is to make heavy applications. Apply from 500 to 700 lbs. per acre, so as to make from 1,500 to 2,000 lbs. per acre instead of 800 lbs. which is the average yield in Virginia. With a favorable season this one application will give three good crops-a crop of tobacco, a crop of wheat and a crop of clover; and, in addition, the land will be brought up to the clover-bearing condition, and perhaps 50 or 100 per cent. enhanced in value. A gentleman here a few years ago purchased one hundred acres of land, the greater part of which was quite poor. The first year he put three acres of it in tobacco, and applied to it about 700 lbs. of fertilizer per acre; the season was favorable, and he made a fine crop of tobacco. In the fall, without any further application, he seeded it in wheat, and in the succeeding spring in clover. He made thirty bushels of wheat per acre, got the next year a heavy crop of clover, and the land was left enhanced in value at least 100 per cent. In this process, too, there is also a great saving of labor, for it costs no more labor to make a plant of tobacco weighing half a pound than it does

one weighing one-eighth of a pound.

The usual practice pursued by our people of spreading their fertilizers and manures over a large surface, involving a heavy outlay in labor, is a ruinous one. We now have no labor to throw away; every lick has to be paid for, and the true policy is to make heavy applications of the manures; cultivate less

land, cultivate that thoroughly, and concentrate and economize the labor.

There is no branch of trade where fraud and adulteration can be practised with so much impunity as in the manufacture of these fertilizers, and none where these facili-

ties are so extensively availed of.

The great fault with our people is, they are constantly looking out for something cheap, and that can be had on long time; and these manipulating gentry are exceedingly accommodating in this regard. If the planter must have a low-priced fertilizer, they can supply it as cheap as he desires, for it is very easily done; nothing is wanting save water, brickdust, sand and dirt. Now, it is well-known to all experienced business men that no manufacturer doing an honest, fair and legitimate business, can afford to supply a good fertilizer at a low price or on long time. And furthermore, it is not generally best for the planter to make his purchases on long time, for it very often happens that when pay-day comes he finds himself in no better condition to pay than he was at first. When these venders of fertilizers exhibit so much anxiety to make sales, and are so prodigal in the matter of time and price, it may be safely concluded that they are making immense profits, and can very well afford to be thus accommodating.

The best and only practical way for the farmers to keep out of the clutches of "this adulterous generation," is to make their purchases only of manufacturers or companies of well-established character and reputation for honesty and integrity, and who are in the habit of charging a fair living profit upon their work. Their prices may seem to be high when compared with some others, but in the end they will be found to be the The writer of this has known nucheapest merous instances where these low-priced fertilizers have been purchased and used on the wheat crop, and they have proved to be entirely worthless-having not a particle of effect on the crop. It is sad and humiliating to think how the honest, hard-working farmer in this and other ways is deceived. may the Great West be waking up to the overwhelming necessity of combination, in order to meet and counteract these shameful frauds and impositions.

Cartersville, Va., Aug. 7th, 1873.

Tobacco Culture in New England-No. 8.

To the Editors of the American Farmer :

Having in former articles traced the culture to the time it leaves the field and is hung in the curing barn, I now leave it, for the time being, to await its curing, ready for further manipulations; and consider the crop in a somewhat different light, although not embraced in our preliminary arrangements. Among theorists, the crop has always been

Among theorists, the crop has always been considered a very exhausting one, reducing and killing the land when continuously cropped with tobacco; one piece of land we have in mind, pointed out, is said will not grow any kind of crop, having been worn out by

tobaccoing.

Our successful planters have always contended that the crop was not an excessively exhausting one, and some have argued that a crop of corn was harder on land than one of tobacco; one thing is certain that grain and grass following tobacco are better than where they follow corn, even when manured equal, at least such has been the writer's observation and experience in most instances. Chemists have heretofore given very little attention to investigating the question of exhaustion by cropping with tobacco, and what little investigation has been made has been so imperfect that it has added to the idea of exhaustion rather than otherwise. But during the past year Prof. S. W. Johnson, of Yale, State Chemist, has more fully investigated the subject by analyzing various specimens of tobacco grown in different soils, &c., and instead of confirming previous popular opinions regarding exhaustion, confirms the views of practical culturists. He says in his report, published in the Sixth Annual Report of Connecticut State Board, "Tobacco has the reputation of being a very exhausting crop. This repute may be deserved when the crop is considered from certain points of view, but it is not deserved when we regard what it removes from the soil." In a table of analysis of tobacco, rye, hay, corn and po-tatoes given, he remarks: "It is seen that the export in an average crop of tobacco leaf, so far as concerns the aggregate of matters taken from the farm, is not so much as in a heavy crop of hay. It is in fact not much more than rye when grain and straw are sold off, or than in potatoes." "In case of tobacco I assume that leaves only are sold off the farm. The stalks may be and commonly are returned to the land in compost. Compared with a large rye crop, we observe that the tobacco leaf removes more of every ingredient except phosphoric acid, but in comparison with the large hay crop, we see that the latter removes more of every element save lime and sulphuric acid." "Lime is the substance which tobacco takes off more largely than any crop in our table. Clover, however, requires and carries away more lime than tobacco. Phosphoric acid is exported in the tobacco crop at the rate of only 8 lbs. per acre. The nitrogen sold off is but 50 lbs. per acre." In answer to the question: "Is to-bacco an exhausting crop?" he replies: "We have seen that the substances which the tobacco crop (leaf) takes out of the land are not such in total amount or in kind as to make their restoration by fertilizers difficult This restoration may be more than effected by adding to one acre the tobacco stalks, and the following substances: 500 lbs. Guanape guano, (or 800 lbs. dry fish guano,) 500 lbs. potash salts, (Kainit,) 50 lbs. quick lime." Thus much and very much more is said in relation to the exhaustive

qualities, to the soil, of tobacco, and I could go on making many extracts from said report of great interest to the tobacco grower, but I desist, as the Editors may prefer to make their own selections, and put their own comments thereto.

W. H. White.

How to Destroy Tobacco Worms .- The tobacco worm, says the Rural World, not only infests the plant from which its name is derived, but is very destructive to the potato and tomato plants. The labor of "worming" tobacco is best known to those who cultivate the plant, but our market gardeners and others who grow the tomato extensively, seldom make it a business to kill the worms, but suffer them to prey upon their plants and arrive at maturity, and multiply their species ad infinitum. We have somewhere seen it stated that a preparation of cobalt, a poisonous mineral, often used to destroy house flies, may be employed to kill the large moth or miller, the parent of the potato or tobacco worm. One of these female insects called "horn blowers," will lay several hundred eggs, each becoming a destructive worm, and the whole of this army of voracious and repulsive looking insects may be prevented by killing the parent.

These large millers are seen just in the dusk of the evening flying around the sweet scented honeysuckle, the Jamestown weed, and any other large honey-producing blossoms, gathering honey just like the humming bird, which they very much resemble while

on the wing.

Cobalt is prepared as follows: It should be pulverized in a mortar perfectly fine, and three or four ounces of this may be placed in a pint bottle, to which should be added a mixture of honey and water; two or three drops of the liquid is to be placed in the freshly opened blossoms of the Jamestown weed, as most convenient. This being repeated occasionally in the afternoon during the season of the moth, every one which partakes of the substance readily dies. The Jamestown weed attracts the fly by its large bell-shaped flowers, and is a plant the worm delights to feed on.

PREPARING TOBACCO LAND.—The Richmond Whig reports a late meeting of the Green Springs Farmers' Club, at which, "After dinner, a discussion was had in reference to preparing tobacco land, and it was decided that after listing it should be crossed with an implement made for the purpose, (say, a piece of scantling with teeth at intervals the planter wants his hills apart,) thereby enabling him to work his tobacco both ways, (doing entirely away with the hoe,) and saving much time and trouble. The distance was decided to be three by three and a half feet."

DIRECT SHIPMENT.—A heavy shipment of tobacco was made from Liberty, Va., to Europe, a few days since. It consisted of a large number of hogsheads of leaf tobacco prized by Col. Thos. P. Mitchell, and was shipped by way of Locust Point, Baltimore, to Liverpool, England.

Morticulture.

American Pomological Society.

The meeting of this association takes place, it will be remembered, on the 10th of Sept. at Boston. Among the premiums offered are the following:-

For the largest and best collection, correctly named, each, of Apples, Pears, Native Grapes, Peaches and Plums, from any State or Society, three specimens of each variety. 1st premium, the Society's silver medal and \$50; 2d premium, the Society's bronze medal and \$25. For the largest and best collection, correctly named, of each of these fruits grown by one individual, 1st premium, the Society's silver medal and \$50; 2d premium, a bronze medal and \$25.

For the largest and best collection of Native Grapes, correctly named, two bunches of each variety, grown south of the southern line of Virginia, Tennessee and Missouri, a silver medal and \$50. For the largest and best collection of Grapes grown under glass,

silver medal and \$50.

For the best collections of Seedlings, grown by one individual, each of Apples, Pears, Native Grapes, Plums and Peaches, the Society's silver medal.

For the best collection, each, of Figs, Oranges and Lemons, grown in the open air, a silver medal.

For the best exhibition, each, of Figs and Raisins grown and cured in the U. States, a silver medal.

For the largest and best collections of Dried Fruits and Canned Fruits, with description of process and expense, to each a silver medal.

The essayists appointed at the last meeting, with the subjects of their papers, are as follows: Hon. W. C. Flagg, Illinois, on Discased Apple Trees, and their Cause; William Saunders, Esq., District of Columbia, on Theory and Practice of Pruning; Thos. Meehan, Esq. Pennsylvania, on Fungi on Fruit. and Fruit Diseases, as cause, result, or con-comitants of one another; P. J. Berckmans, Esq., Georgia, on Cause, Remedy, or Preventive of Pear Blight.

In addition to the above, the following named gentlemen have been invited, and are expected to prepare short, condensed, practical essays, or papers, as follows: Prof. Louis Agassiz, of Harvard University, Massachusetts, on the Geological Age of Fruit-bearing Plants; Dr. John Strentzel, California, on the Cultivation of the Fig in the United States: Dr. E. S. Hull, Illinois. on Root Pruning, and how to grow the fairest fruit; Mark Miller, Esq., Iowa, on Fruit Growing and Varieties in Iowa and other Western States; Geo. W. Campbell, Esq., Ohio, on Grapes, Culture, Varieties, etc.; C. M. Hovey, Esq., Massachusetts, on Pear Culture; P. Barry Esq., New

York, on How to Grow and keep Pear Trees in vigor and shape; Robert Manning, Esq., Massachusetts, Is there a permanent decline in the Apple Tree and its crop in New England? P. T. Quinn, Esq., New Jersey, on the Exhaustion of Fruit Trees, and the remedy therefor; Josiah Hoopes, Esq., Pennsylvania, on the Influence of the Stock on the Graft, or of the Graft on the Stock; A. S. Fuller, Esq., New Jersey, on Culture and Varieties of Small Fruits; Wm. Parry, Esq., New Jersey, on the Cultivation and Varieties of Apricot and Plum; W. C. Barry, Esq., New York, on the Keeping and Ripening of the Apple, Pear and Grape; F. R. Elliott, Ohio, on the Cherry.

We expect that the American Farmer will be represented at this meeting, and we hope to be able in our next to give a report of the interesting proceedings.

PEAR DISEASE.-The following is an extract from the proceedings uf the Massachusetts Horticultural Society, and will be read with interest:

On the 17th of October some remarkably large specimens of the Lawrence pear were exhibited, from Mr. Parker Earle, of South In swelling to this large size, they have, as we have before remarked is apt to be the case, especially in southern latitudes, acquired a somewhat irregular and knobby form, so that they were recognized by but few persons, but would rather have been taken for modern sized Duchesse d'Angoulemes. Although very carefully packed, a majority of the specimens appeared to be much bruised around the eye, but a letter since received from Mr. Earle assures us that this was not the case, and as we believe it will be of general interest, we copy a portion of his statement on this point. He says: "The injured pears were not bruised in transit -I wish that was what ailed them-but it was the development of a disease which attacked that variety this year for the first time. It is utterly unlike anything I have seen be-fore, and I have no notion of the cause. The homely word 'dropsy' best expresses the experience of it. About one-fourth of my crop was affected, either on the tree or just after gathering, so that they could not be marketed: and I judge from market sales, that fully half sent showed injury and hasty decay before The first appearance was a watery translucent spot at the base of the pear, which, in a week's time, would involve one-half, or one-third of the fruit. These dropsical affections were wholly independent of any insect or mechanical injuries. Just the result to the flavor and texture of the fruit you saw in the specimens sent you. These, however, were all sound as a nut, and perfect in every respect when sent, and so packed that bruises were impossible, except from considerable ex-ternal violence. Our summer was exceedingly hot, especially for two or three weeks in August; some degrees warmer than my thermometer has ever before indicated. This may have caused the disease. I can think of no other peculiar condition."

Collection of Oranges.—Says the Journal of the Farm: "It is not generally known that the Superintendent of the Government Gardens, at Washington, has for some time past been making a collection of all accessible varieties of oranges, and that he now has over fifty varieties, of which but three kinds have yet been distributed, viz: Tangerine, Maltese and St. Michaels. It is proposed to have the different varieties tested, and when their qualities are ascertained, to distribute the best kinds for cultivation in the South and on our Pacific coast. This branch of horticulture is one which has made rapid progress within the last few years, and we are glad to note that Mr. Saunders is thus assisting it."

Vegetable Garden-Work for Sept.

Do not allow the remains of old crops to occupy the ground. Clear them off, to give place to winter crops. Late Cabbage should be kept well hoed. In this vicinity seed for the spring crop is sown from the 10th to 20th of September. As soon as they reach size enough they are transplanted into cold frames and so kept over the winter until they can be set out again in the spring. The seed beds should be of good, light soil, which ought to be well packed down with the back of a spade or a roller when the seed is sown, so that its germination may be secured in case of dry weather. Market gardeners near the city, in-stead of wintering the plants in frames, put them out in the fall where they are to grow. The growth of the plant is encouraged by hoeing, and towards the end of October they are set out on the sheltered side of ridges, which are so run as to preserve the plants from the effects of the cold northwesterly winds. These ridges are made in dry, rich soil, and are run as nearly as possible S. W. and N. E. The plants are set on the side of the ridges low enough to be sheltered by their tops from the sweep of the wind, but high enough up to secure the effectual drainage of water from the roots. Furrows between the ridges draw off the surplus water. In March the ridges are gradually leveled, so that the plants become inured to the wind, which even then often destroys many plants which have survived the winter.

Earth up Celery only when it is dry, and do not allow earth to get into the hearts of the stalks. Turn Melons so that they will ripen evenly on both sides. Onions may be harvested, drying them well in a coal place before storing away. Winter Radishes may be sown. The Chinese Rose is the popular variety for this purpose. Spinach is to be sown from the 15th to 20th of the month in drills 16 inches apart. Press the earth close to the seed in case of hot suns. Sprouts, or Kale, to be sown as Spinach. Turnips may still be sown. Keep Ruta Bagus well hoed.

NEW YORK CROPS.-The N. Y. Working Farmer, for August, says: "For weeks and months the one engrossing topic of thought and conversation among our farmers has been Will it ever rain, and if so, the weather. when? is the question all have had in mind. When we were planting corn the ground was light and dry-in splendid condition to cultivate. Our low land is seldom in as good order to plant as it was last May. We hurried through planting, for there were many clouds and every prospect that it would soon rain, but no rain, of any amount, fell. On moist land the seed germinated and plants came for-ward rapidly. On dry land which was planted early the same results were attained, but where the seed was not got into the ground until late, it did not grow for a long time, and now will not be worth much either for grain or fodder. Early in June the grass on uplands began to dry up. But in spite of the drought corn and potatoes grew well and, on what is called quite dry land, have not even yet been ruined. The result with these crops will be smaller stalks and tubers and too early maturity, but they are not very seriously injured. The hay crop will be light; some fields will not be mowed at all. Others yield not more than a fourth or half a crop. On land seeded last fall there is hardly enough to pay for cutting. Some of the richest tobacco land in this vicinity, which was seeded just after the crop was taken off last year, and which ought to produce three tons of hay per acre, will not yield five hundred pounds. Upland pastures have suffered severely, and some farmers have had to feed their cows in the barn. Rye is ripe, much of it already cut, and a very light crop. Oats will be ready to cut in a week. The heads are light and the straw short .-Many fields will be cut and cured like hay. Tobacco which was set out early on rich land and well watered and tended, is looking well; but where setting was delayed on account of dry weather, where the land is not rich enough, and where it has not been well cared for, it is small and sickly, and probably will not be half a crop."

The Live Stock Journal (Buffalo, N. Y.) for August says, that "the hay-crop through the State of New York, and especially Western New York, is unquestionably very light, the same in parts of Pennsylvania, Ohio, Michigan, Delaware and Maryland; but good in most parts of New England, portions of Michigan and in Illinois, Indiana and Wisconsin. The railroads will do a brisk business in carrying baled hay. Wheat is, probably, a little under an average for the whole country—very much below in New York, but the supply will be equal to the needs, and therefore very high prices cannot be looked for. It is too early to determine the corn yield, but it is safe to say that the crop will be equal to the demand, still will bring better prices than last year. The oat and potato crops promise well."

NEW ENGLAND CROPS.—The rains of late have improved the condition of some of the crops in N. England as well as elsewhere. In Maine, says the Boston Cultivator, the farmers are rejoicing in the abundance of the staple crop of the State, (Hay): "the meltings of the immense body of snow in spring, with no frost in the ground, were favorable at the out-The grass got so good a start that its growth was but partially checked by the weeks of drought the latter part of May and the first of June. The earth retaining its moisture by the snow melting, the grass continued to grow notwlthstanding the drought, and is of superior quality on account of the drought. The report of the other crops are not so generally satisfactory. The indications are, that potatoes will be small and few in the hill.

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The Maine Farmer says, "the grass is not so bulky, but is heavier according to its bulk. Corn is rather backward, and so are potatoes, but recent rains encourage the hope that the yield will be fair. The Mirror and Farmer says the recent rains have saved the hay crop in New Hampshire, and adds: 'the severe drought, which a month since threatened to reduce the crop to less than half an average one, was broken about the 4th ult. by copious showers, which have been frequently repeated until the soaking rain of last week assured the hay and grain crops."

A Mass. paper says that the farmers of Maine will find a market for all their surplus hay in that State.

Letters from Verment say that the hay crop will be a third below the average, in some localities probably not more than a half, but the quality is good—the potato crop bids fair to be good, and with a continuance of alternation of sunshine and showers, a fair harvest of corn and the lesser grains may be expected. An abundance of fruit of all kinds is anticipated. All kinds of grain are looking well.

Pennsylvania.—The Practical Farmer (Philadelphia) for August says the "pasture and hay crops have been fair; both, however, suffering from the dry weather. The latter is better than last year, though not up to the average. The difference between good and bad farming is epecially observable in time of drought, a vigorous and luxuriant growth seeming to have a larger vitality, and holding its own, while feeble and sickly growth succumbs to adverse circumstances. Oats, in this dairy section, seem to be less cultivated from year to year, Hungarian grass, potators or root crops, to a considerable extent, taking its place. Oats rapidly deteriorate here, and require constant renewal of fresh seed from cooler climates.'

Farmers' Club of Washington Co., Md.

The monthly meeting of this Club was held on the 21st June, and a general discussion took place on various agricultural topics—the Mail gives an abstract of the proceedings, from which we select a few passages:—

Mr. Sparrow manures sod ground for corn; plants to corn one or two years as needed; ploughs sometimes in fall, sometimes in the spring; follows up with oats, manured if necessary, then wheat and grass; thinks fall ploughing best for sod ground, but spring ploughing for clean ground; finds manure beneficial for wheat if ploughed under shallow; expects to improve his soil by clover; likes to plough clover under just before it ripens; has plenty of blue thistle; never ploughed it down green, but has seen it done by his neighbors; does not think well of ploughing down straw; is careful to save all the manure he can.

Mr. Tice referred to the fact that, in the West, they were legislating against blue thistle by imposing penalties upon those who were negligent of it.

Mr. Brown ploughs clover under for wheat, then applies manure and stubbles; never had blue grass until the drill came into use; finds grass doesn't hit well on corn ground.

Mr. J. Huyett gets his best wheat from stubble ground with well rotted manure and ploughed under shallow. To enrich his land, he hauls it out early and lets it lay upon the surface; finds it helps the grass; farms his land over every other year; applies phosphates when short of manure.

Mr. Motter makes it a primary object to enrich his soil; hauls all the manure he can in the spring; keeps it as much as possible from the action of the sun. He never stubbles; plants corn on stubble ground; sows clover seed any time during the season; thinks it a cheap manure at \$5 per bushel, even sowed in July; is opposed to taking all the benefit of manure from the land; thinks blue thistle the best abused filth that grows; nature has made it for a fertilizer; should be ploughed under green. Manure diminishes in quantity and, consequently, in value by laying too long in the barn-yard; sows plaster all over his corn ground after harrowing: ploughs clover under when one year old; has made 1320 bushels of wheat on 42 acres.-Professor Baer regards sheep sorrel as a good fertilizer for very poor soils; ashes and lime will destroy it.

Mr. Hoover thought his soil had been injured by ploughing down manure in a damp state; his ground was not too wet; thought stock, &c., should be kept off land too wet.

After lunch, the discussion was renewed:
Mr. Daniel Huyett objected to two years
in wheat as cultivating blue grass. He also
referred to Thomas' smoothing harrow and
steel ploughs as useful implements.

Mr. Stake thought it a question whether

stubbling cultivated the blue grass, but rather thought the seeds were hauled out in the manure applied to stubble ground, but the impression seemed general that stubbling did

cultivate the grass.

The question, what is the present condition of the growing corn crop, brought out a pretty general complaint of the cut-worm, the grub, the wire-worm and red ants, and the drought now prevailing.

Dr. Harvey enquired as to the time re-

Dr. Harvey enquired as to the time required to mature corn, which elicited the very general opinion that, under favorable circumstances, ninety days were sufficient; some varieties required longer time than others.

Mr. Stake was selected to deliver the next essay, and Wayside the place of holding the July meeting of the club upon the invitation of the proprietor, George W. Harris, Esq. Mr. D. Brumbaugh addressed the club upon

the subject of new kinds of wheat, &c.

On motion of Dr. Maddox, the president was requested to correspond with Judge Watts, the Commissioner of Agriculture, with a view to obtaining an importation of seed wheat, if possible, of the old original Mediterranean variety, in quantity.

On motion of Mr. Berry, the president appointed a committee, consisting of Messrs. Berry, Brumbaugh, Kendel, Oswald and Maddox, to report at the next meeting the true condition of the crops of the county, with the view of communicating the same to the Agr. Bureau at Washington—and it was also directed that the Ex. Com. communicate with farmers' clubs in different sections of the State advising similar action on their part.

State, advising similar action on their part.

Col. W. W. Bowie was introduced to the club, and expressed himself happy in meeting so many farmers of the county, but was unprepared to make a speech, having come up simply as a guest of his old friend, Mr. Berry. He paid a high compliment to the skill and industry of Washington county farmers; extolled her roads, and drew a humorous contrast between them and the roads in Prince George's county; referred to live fencing, and spoke highly of Osage Orange as a hedge.

JULY MEETING.—The Club met again on the 19th July. A communication from Judge Watts, the Commissioner of Agriculture, was read, which was in answer to one addressed to him by the President in regard to the procuring of original Mediterranean wheat. The Commissioner advised the club that "the white winter Touzelle wheat had proved an acquisition, and was, in his opinion, as much a fly proof variety as any other," a sample of which was sent for examination. He also directed how "the club might obtain the wheat for seed, should they decide to import some, or any other, from the Mediterranean."

[The Commissioner intends to import 400 bushels of seed wheat of different varieties.—

Eds. A. Far.]

The committee appointed to report upon

the result of the crops of Washington Co. delivered the following estimate:

"The present crop of wheat will amount to three-fourths of a crop. Rye, owing to increased acreage, being free from insects and blight, will be one-fifth over an average crop. Barley and oats, owing to the late rains, may be set down at fully three-fourths of an average crop. Corn and potatoes, from present appearance, can be set down at two-thirds of a crop. The hay crop will scarcely reach one-half an average crop. The apple crop may reach one-half an average crop. The peach and grape crop is a complete failure, except on the high localities of the county."

The subject for discussion was "the treatment of mowing and pasture lands," in the course of which Mr. McAtee referred to the bottom as overflowing, and thus feeding up the grass, as perhaps better for grass, but the stiff clay lands can be used profitably—and as we cannot compete with the West in grain, we were driven by Providence to resort to some other crop, and with the aid of the mower and the horse-rake, hay-making was now reduced to but comparatively little labor—he thought clover should not be pastured the first season, and favored orchard grass for pasture, &c.

Mr. Sparow—If we choose a single grass, preferred timothy for hay; has cut three tons per acre; the ground should be cleared before sowing; he also was opposed to pasturing clover the first year; prefers timothy nearly ripe before cutting; sows one bushel clover seed to 6 or 8 acres, which makes good

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Mr. D. Zeller preferred sod ground to wheat stubble for corn; sapling clover mixed with timothy makes excellent hay; regarded the red clover as a better fertilizer. Other gentlemen made remarks upon the subject, but we have not room to give more space to the discussion.

Before adjournment a number of persons signified their desire to secure some of the wheat recommended by Judge Watts.

Twenty-odd gentlemen came forward and signed the constitution, and the club adjourned.

It has been determined by this club to hold its Sept. 20 meeting in Druid Hill Park, in Baltimore, the Western Md. Raifroad Co. having offered to furnish round trip tickets at \$2 each, and an invitation is to be made to extend the privileges to as many citizens as may wish to unite in the excursion, as also to such citizens of Baltimore, ladies or gentlemen, as may wish to meet with the club for the day. The whole plan is to be upon the picnic order, and a committee has been appointed to make the necessary arrangements.

One of our subscribers, says the Danville Times, David Parrish, got \$105 a hundred for a portion of his crop of tobacco sold in Danville last month.

Baltimore County Gunpowder Club.

We attended the August meeting of this Club, which was held at the residence of Mr. Edwin Scott; we have never more enjoyed a meeting of this very spirited club than on this occasion; every member was at his post, as is generally the case, and the finest feeling was manifested by all, in giving and receiving instruction upon such matters connected with farming that were brought before them. We avail ourselves of some notes furnished from his record of the proceedings, by the excellent Secretary, Mr. Thos. Gorsuch. The subject for the evening's discussion, (after the report of each member as to the result of his cropping,) was the use of commercial fertilizers:

A. C. Scott had tried Burgess & Butts', Whitelock's Vegetator, and Moro Phillips', all on corn; result altogether favorable to the first named

D. Gorsuch had used some eight or nine different kinds, most of them with good effect, best however from Whitelock's make, and visible for years, even at a distance; but superior to all commercial manures, he remarked, was his own manufacture of bone dissolved with sulphuric acid and adulterated with dry earth.

Jno. D. Matthews, on a poor soil, had used bone, 16 bushels to the acre, with astonishing effect—had experimented on the same field with Turner's Excelsior and Ammoniated, Whitelock's Vegetator, and Crossdale's, with scarcely any perceptible result except from Whitelock's; this had left its mark through a series of crops—intends to use the latter exclusively the coming season. Mr. M. added, that it was the intention of the manufacturers to use, hereafter, the bone alone dissolved with sulphurle acid.

N. R. Miles said that Baugh's raw bone had acted like a charm on potatoes and other vegetables, and he has also used the Guan-

ape guano with fine results.

J. M. Price had used Peruvian guano with decidedly favorable results; Coe's (400 lbs. to the acre) had grown him fine grass; bone used last season on wheat had been remunerative; on a neighbor's field had seen most marked results on grain and grass from the application of the Whitelock fertilizer used side by side with Coe, bone, and Peruvian guano; it had outstripped them all.

W.W. Matthews—Coe's used on corn sown in strips had left no mark; from fish guano and bone on potatoes he had seen no benefit. Last fall he had used bone on grain, 500 lbs. to the acre, with so far no visible result in the grain, and only slightly in the grass set—on a spot where an application at the rate of 1500 lbs. per acre had been tried, as an experiment, the result was the same.

Jos. Bosley—Turner's Excelsior, and Peruvian guano mixed with plaster and leached ashes, used separately on equal portions of the same field, had produced the most satisfactory results, not only on the first crop of wheat, but also on the grass, and now shows plainly on the corn. Since, his own mixture (Peruvian guano, plaster and leached ashes) had not proved satisfactory, possibly on account of the dry season; he had tried bone and plaster with very good effect—had also found Coe's good.

T. T. Gorsuch considered Whitelock's fertilizer preferable to any others in the market. Calcined bone, prepared with sulphuric acid without dryer, are the elements employed in its manufacture. A good compound would be 100 lbs. of the Whitelock, or a superphosphate of his own make, drilled in with wheat; such a compound would benefit both grain and grass, though his main object would be

to get a stand of the latter.

J. M. Gorsuch had found

J. M. Gorsuch had found nothing equal to the Peruvian (Chincha Island) guano—as a substitute, is now using the Guanape; it is very valuable for potatoes; barn-yard manure is not as valuable for the tubers of potatoes, its effect being more fully seen on the vines he thinks the different kinds of fertilizers can be applied with profit to any lands not in the most advanced state of improvement.

Mr. C. W. Slagle, (a guest from the city.) being called upon, saw no reason why the farmer should not be his own manufacturer of a commercial fertilizer, as they could save 30 to 50 per cent. of their cost—thought the preponderance of opinion in favor of the Turner and Whitelock fertilizers was due to the large per centum of bone used in their composition; said the Buffalo bone had the reputation of being the freest from foreign matter, and therefore the best; it was also the cheapest.

One of the Editors of the American Farmer, who was present, was called upon to give his views upon the subject; he gave his own experience and observation as to the value of bone-dust, the use of which he had

advocated for fifteen years or more.

The Secretary, T. Gorsuch, in furnishing the report from which the above abstract is taken, says that he cannot refrain from adding that there is probably no more striking proof of the profitable use of bone than in the case of Mr. Woolsey, of Harford Co., Md., (an account of whose farming was published in the last year's volume of the Amer. Furmer, which can be referred to with profit by our readers.)

The Foreman of the Club for the day, (D. Gorsuch,) announced the appointment of the following committees, as provided for at a former meeting:

1. S. M. Price, E. Scott, E. H. Matthews, and D. Gorsuch, to acquaint themselves with new agricultural machinery, or any now in use, with which they may not be familiar; to discriminate as to suitability to our section,

and to arrange and conduct trials of the same

when necessary or desirable.

 N. R. Miles, J. M. Price and W. W. Matthews, to take charge of and test new grain, grass or other seeds, and ascertain their merits and value; also, to experiment in regard to the best fruits for our section.

3. Jos. Bosley, Jno. D. Matthews, and Abr. C. Scott, to institute and conduct experi-

ments with fertilizers.

The Secretary adds, "these lines convey but a faint impression of the interest the occasion called forth; and we might add, too, that the feast provided by our hostess for the gastronomic soul, fully equalled that which delighted the agricultural one"—all of which we most heartily endorse.

Wheat Culture-Bones-S. C. Phosphate.

Mesars. Editors of the American Farmer:

Dear Sirs—More than twelve months ago, in a casual conversation at your office, I happened to speak of the beneficial results from the use of bones in combination with plaster and ashes, and at your request I promised to furnish a statement of some twenty or more years experience in pursuit of phosphates.

I have been somewhat slow in fulfilling this promise, but if my communication be useful at all, most of its utility will result from my recent experiments with the phosphate rocks

of South Carolina.

Inert, inactive, and almost valueless as this rock is in its native form, even reduced to the finest powder, when dissolved with acid it furnishes beyond a question the most valuable basis for a wheat-growing fertilizer, as it is even richer in phosphate than animal bone.

I shall endeavor to be brief, and to confine myself as far as I can to a simple statement of facts, and yet I may not be able to bring all I wish to say within the space I would desire. As those who speak wish to be listened to, so those who write hope to be read. The mere length of an article often drives off the reader. He, therefore, who seeks to impart information should use as few words as he can to make himself distinctly understood. It is only with a hope that my experience in the use of phosphates may furnish useful hints to farmers, that I am induced to make this communication.

Almost all the best wheat-growing sections of this country, and probably of most others, have been found after frequent repetitions of the crop to cease to yield remunerating returns. These failures are often, and to some extent, perhaps, justly attributed to bad seasons and the depredations of insects, for no plants have more enemies than wheat. Often, too, the lands do not receive the thorough preparation which they ought to have. Want of care to protect the plant from water is the great cause of winter-killing. If the land be fully drained, bedded when necessary, and

properly furrowed after seeding, I do not think that wheat sown in proper time will ever be winter-killed. As this crop can receive no culture after the seed is sown, a full preparation before seeding seems absolutely necessary. Yet, after full allowance for all such causes of failure, we are forced to the conclusion that a frequent repetition of the wheat on the same land will exhaust even our best wheat soils of some quality essential to its successful culture. It becomes the task of the intelligent farmer to find out what this deficiency is, and if practicable to supply the want.

At a very early period of my farming life, circumstances called my attention to this subject. The soil upon which I had to operate had been originally good, but was much worn, and my efforts were at once directed to its improvement. It was not, however, any experience on my own farm, but the remarkable history of a neighboring farm which offered a striking illustration of the rapid exhaustion of its wheat-producing powers.

Mr. John Henshaw, of this county, was one of our pioneers in agricultural improvements, and in the early part of the present century his abundant crops of wheat were the talk of all the surrounding country. I well remember when a lad to have heard the gentlemen of the vicinity discussing these crops. Mr. Madison, quoting from Judge Buel, that "Plaster made a rich father but a poor son," predicted a failure, and although he had already numbered his "three-score years and ten," he lived to see his prediction

verified.

Mr. Henshaw's system was to plough in the crops of clover whose growth had been stimulated by the use of plaster, and on these clover lays to sow his wheat, and from the large amount of vegetable matter constantly returned to the soil he flattered himself that his crops would continue to increase. So far from this they fell off rapidly, and in a few years the culture of wheat had to be abandoned on the farm. I am not disposed to advocate the doctrine of the deleterious effects of plaster, or that lands become clover or plaster sick. On the contrary, I think that plaster can scarcely be used too freely, yet I think that the plastered clover in this case enabled the soil to exhaust itself more rapidly than it could otherwise have done of its wheat-growing properties; and whilst the large crops of wheat might fully compensate for the exhaustion, it becomes important to find out and to restore the exhausted element. A process of reasoning, which I will not here detail, convinces me that phosphate of lime was to a very great extent what the soil wanted for the production of wheat, and I resorted to animal bones to supply this

My first experiment with bone dust, or rather bone chips, for very little of it was reduced to a powder, was from twenty-five to thirty years ago. It was sown broadcast on land about to be planted in corn, and without any perceptible improvement in the corn. Wheat followed the corn, and there was no apparent benefit to the wheat. The grass which followed the wheat was very much improved, and the benefit to the land is still apparent. Some two or three years ago some gentlemen walking over this field, which was then in corn, asked if there had not been a settlement on this hill. In all my applications of crude bones the permanent benefits to the lands have been obvious, but the effects were too slow for so costly an application, and I therefore resorted to composting the bones with plaster and ashes as a means of hastening its action.

Each spring I collected all the half leached ashes of the farm, bought an equal quantity of bones and half the quantity of plaster, and put them in compost for fall use on the wheat. Of this compost I used 400 lbs. to the acre, at a cost of about \$3—thus, two tons bone \$50, one ton plaster \$10, two tons ashes \$10 or \$15 per ton for the compost, which at 400 lbs. to the acre would be \$3. This practice was continued up to 1861, when the political disturbances put a stop to all agricultural improvement, and at the close of the war a variety of circumstances prevented its resumption. I found this compost by far the best application I have ever used, both for wheat and grass, but the high price of bones and the discovery of the phosphate Rock of South Carolina have prevented its resumption.

I have been experimenting with the South Carolina Rock for about three years, and most of my results have been satisfactory. Not aware, at first, of the absolute necessity of its being dissolved with acid, I mixed the crude article, after its having been reduced to a fine powder, with plaster and ashes. This mixture was sown broadcast on the thinner portions of my wheat field, and after the seeding of the crop was completed, at the rate of about 400 lbs, to the acre; in fact, I was carrying out my old plans, substituting the ground rock for animal bones, and not leaving the mixture, as formerly, six months in compost. The effects both upon the wheat and grass after wheat were good, especially in the earlier maturity and better graining of the wheat, yet I am at a loss to what portion of the mixture to ascribe it.

The following spring, that of 1871, I applied the crude powdered rock to corn, and thought the corn somewhat better eared, but was not fully satisfied as to the fact. My subsequent experience with the South Carolina Rock has been given somewhat in detail in a letter of 18th July, published in your August issue.

I conclude, therefore, with a regret that this communication, after having been so long delayed, is too hurried to be satisfactory either to myself or to my readers. Yours, John Willis.

See Griffith, Baker & Bryan's and J. C. Durborow's advertisements of DRILLS.

Live Stock.

Precoctous Jersey Heifer.—Mr. Alvan Reynolds, of Lebanon, Maine, has a full-blooded Jersey heifer which was thirteen months old June 10th. On the 22d of June she dropped a calf. The facts as stated appear well authenticated.

We clip the above from the N. England Farmer. A case nearly approaching it has come under our own notice. An Alderney heifer calf, Florence, was shipped by us to Mr. John Witherspoon, of Society Hill, S. C., in October last; she was one year old 30th March, and dropped her calf on 23d June, and therefore calved before she was fifteen months old. The breeder had no knowledge of her having had access to a bull before her shipment, but as there were two bulls in the vicinity (both Jerseys) she must have been served by one of them. 'As the facts stated to us by Mr. W. are interesting and unusual, we give them in connexion with the above statement, adding, that as the owner has a fine young bull of the same breed, which he is now using with his cows, he will dispose of the calf, and being "to the manor born," adds to his value, as cattle brought out from farther North are apt to suffer the first summer. The calf is represented as a good one, as gentle as a pet dog, fawn color, with a little white, and the "tips" black. Mr. Witherspoon says of the heifer:

"I brought her out from the river land in May, fearing malaria there, to my residence in the sand hills, where the pasture is very poor, and not knowing she was with calf, did not feed her until after she calved. Although not fed high, she gives five and a half to six quarts of rich milk a day, leaving a portion for the calf. Though the calf is but a month old (at writing) the cream is thicker and yellower than that of any cow I have seen when on a pea and pumpkin field. On a good pasture a month before calving her milk was about one-third cream. She began to give milk at eleven months old—nearly four months before calving.

"I need not say that I am delighted with the Jersey heifer, but regret her calving so

HARD TO BEAT.—Dorn, a pure blooded Jersey heifer, with pedigree, four years old, raised by Capt. Oliver Adams, of Winchendon, Mass., gave milk in thirty days, the last of May and the first of June, from which was made fifty-five pounds of as sweet, hard and yellow butter as ever was eaten.—Mass. Ploughman.

ADVANCE IN PRICE OF SHORT-HORNS IN ENGLAND.—The English "Farmer," noticing the result of recent sales of Short-Horn Cattle in that country, especially those of Messrs. Towneley and Cheeney, remarks, that "last year the price was thought to be very extravagant, but this season they have been considerably higher"—and adds "that the retaining fee of Mr. Strafford for the sale of Mr. Campbell's herd, [to take place in N. Y. 10th of this month,] a four-figure one though it be, will not be more than one-half the sum which a single animal will bring."

The highest price paid at the sale of Mr. Cheeney, Gadderby Hall, referred to above, was for the 12th Duchess of Geneva, red, calved 27th of April last, by 9th Duke of Geneva (28,391) dam 11th Duchess of Geneva, by Baron of Oxford (23,371), bought by Sir Wm. Lawson for 935 guineas. The highest price for a bull was 820 guineas, paid for 3d Duke of Gloucester, red, calved Dec., 1872, by 10th Duke of Thorndale (28,458), dam Duchess of Audrie, by Royal Oxford (18,744), bought by Lord Bective. The average for the cows was £321, and for bulls, £187. Only think of a calf, 3 months old, bringing about \$4675, gold!

SHORT-HORN CALVES.—Seeing in the New England Farmer of the 5th July a notice of a Vernnont calf, six and one-half months old, weighing 700 pounds, suggested the weighing of "Gen. Dix," a full blood Durham, owned at the New Hampshire State Reform School, four months old yesterday (13th.) He weighs to-day 525 pounds, and has gained from his birth 3½ pounds per day. His keeping has been the milk of his mother, wheat bran, hay and water, and nothing else.

In the same pen is a grade Durham, two months and nine days old, weighing 360 pounds, that has gained the same per day on the same keeping.

E. I.

A FERTILIZER.—H. S. Thompson, of Kirby Hall, Yorkshire, states in the Royal Agricultural Society of Eng. Jour. that his favorite fertilizer for grass land is 1 cwt. nitrate of soda; 2 cwt. mineral superphosphate, and 3 cwt. of kainit per acre—these cost about \$10. For mowing land, he would increase the quantity of nitrate to 1½ cwt. per acre.

SUMAC.—Wm. D. McIver advertises for 200 tons of Sumac, delivered in Hillsville, Va., in the months of Oct. and Nov., for which he offers 75 cts. per 100 lbs. At this price even, a profitable business in the neighborhood could be done by gathering the leaves and drying them for market. The leaves only are wanted.

Cows Holding up their Milk.

Mesers. Editors of the American Farmer :

I was an interested listener, some short time since, to a conversation in regard to the control which a cow has over her milk. The speakers were pro and con., some contending that she could hold up or let down her milk at pleasure; some that she could not. Can you, or some farmer or dairy-man instruct your many readers on this subject, pointing out the best means for inducing the cow to let down her milk freely?

A cow has recently come under my observation, which, when the calf is standing by her side, will give from two to two and a half gallons of milk. If the calf is removed from her sight and hearing, a quart cannot be obtained. How is such a cow to be managed that the calf may be taken from her?

Instances have come under my knowledge where cows have been sold with the assurance that they would give a certain quantity of milk, and when removed did not yield a sixth or fourth of the quantity. The purchaser charges the seller with untruthfulness and fraud, and, of course, confidence and friendly intercourse is at an end.

Is it probable that a cow taken from one locality and her accustomed milker, and removed to another locality and a strange milker, will refuse to let down her milk?

July, 1873.

BEGINNER.

[That a cow has some control over her milk, as related, seems generally admitted, but how far is a disputed point. As a matter of interest, we should be glad to hear from any of our readers who can illumine the subject.—Eds. A. F.]

EXTRAORDINARY YIELD.—Mr. S. D. Hungerford, Adams, Jefferson Co., N. Y., is the owner of a half Short-born and half Ayrshire cow, twelve years old, large and symmetrically built, and weighing 1100 pounds. He communicates to the Turf, Field and Farm her yield of milk for four days in June:—

| | | | | | 7 | A. M. lbs. | 12 M. lbs. | 5 P. M. lbs. | Total |
|------|----|--|--|--|---|---------------|---------------|-----------------|-------|
| June | 10 | | | | | 33 | 311 | 334 | 98 |
| 66 | 11 | | | | | 331 | 331 | 34 | 1004 |
| 64 | 12 | | | | | 324 | 331 | 33 | 100 |
| 46 | 13 | | | | | 33 | 34 | 341 | 101+ |

Estimating the specific gravity of the milk at ten pounds to the gallon, we have a net product of forty gallons in four days, an average of just ten gallons, or forty quarts a day. The largest yield in one day being June 13, of 101½ pounds. Mr. Hungerford is willing at any time to have the milk tried by a lactometer, and offers for a cow that can compete with the milking qualities of the one now owned by him, one thousand dollars.

The above statement, if there is no error in it, is the largest yield upon record. One hundred pounds of milk per day seems in-

credible, as it is at least four times the average yield of cows at our cheese factories at the same season. A cow that will give that quantity of milk would pay a good interest on \$1000.

SEED WHEAT.—We have already noticed the monthly report of the Agricultural Bureau, for July, in which it is estimated that the wheat crop of this year will about equal that of the preceding, but that the quality will be superior. We allude to the subject again for the purpose of adding the following additional information given in the report, which, now that seeding for another crop is about commencing, will be of interest to wheat-growers. The Commissioner says:

"It was observed that early-sown fields of winter-wheat were far more promising than those later sown. The advantage of early-ripening varieties was also indicated by the fact that these escaped the ravages of the insect enemies, which entirely swept some of the later crops. Of these early-ripening varieties the Fultz and Tappahannock from the Department, especially the Fultz, receive very frequent and honorable mention."

We give below, from the reports of the several wheat-growing States in the middle and southern sections, the following abstract, upon which the conclusion quoted from the Commissioner is based:

New Jersey-Early sown wheat good; late sown thin, but not rusty; drilled always best. Pennsylvania: Westmoreland Co., wheat ripening very unevenly, but very well filled; Fultz badly winter killed; Chester Co., late varieties a little rusted, some injured by fly; Tappahannock first ripened. Margland: Balt. Co., somewhat injured by the fly, but the crop generally good, Oct. seeding less injured than the earlier: Caroline Co., straw short but heads good, much winter-killed; Queen Anne's, harvested in fine condition, later ri-pening grain particularly fine and plump. Virginia: Pulaski Co., what escaped winter looks well, no indications of rust; Bedford, half lost by winter-killing, rust and smut also injuring some fields; Fluvanna, good where not winter-killed; Tappahannock and Fultz have both done well, Touzelle too late for the climate; Page Co., grain good and well har-vested, but 25 per cent. below an average, Lancaster and amber varieties best for this climate, none of the smooth wheats have matured well; Wythe, not over half a crop, few use the drill, drilled wheat looks much the best, especially when early sown; New Kent Co., fine in quality; Orange, damaged by winter-killing and fly, quality good, Fultz the best; Clarke, Hessian fly very destructive, many fields destroyed and given to stock for pasture; Loudon Co., injured by fly, where

no fertilizers were used crop a total failure; Culpeper Co., Fultz exceeds all other wheats; James City Co, Fultz promises 20 for 1, very popular; Cumberland, Fultz a great success; Gloucester, crop heavy on good lands well fertilized and tilled, German red generally preferred to the smooth heads; Madison, very sorry, some rusted, where not rusted a few good crops; Mecklenburg Co., quality never better, Touzelle and Tappahannock yielded well: Henrico, came out well; Smyth, better than was expected; Montgomery, some rusted; Prince George, damaged 20 per cent. by rust: Henry, short but good; Halifax, injured by chinch-bug; Highland, badly winter-killed: Essex, quality excellent. North Caroed; Essex, quality excellent. lina: Caldwell, largely winter-killed; Burke, generally good; Greene, more or less injured; Stanley, early red good, later varieties more or less injured: Lincoln and Forsyth, better than was expected; Catawba, broadcast wheat froze out, drilled brings full crop; Clay, almost a failure, Fultz very good; Jackson, Touzelle not suited to the climate, Fultz excellent, stands winter well; Stokes, Touzelle did well, Tappahannock better. Georgia: Marion, Touzelle a failure, Tappahannock good; Jackson, Touzelle not suited to the climate; Whitfield, early sown wheat good, late sowing mostly a failure. South Carolina: Greenville, late sown a failure; Williamsburg, quite reduced by heavy rains during bloom.

Alabama: Blount Co., Tappahannock ruined by rust; Crenshaw, white grows finely; Calhoun, Fultz better than most varieties; Marshall, Fultz a great success; Lee, Touzelle not suited to climate, Tappahannock good, but 10 days later than the native purple straw. West Virginia: Braxton Co., thinned by winter-killing, but quality good, Fultz did not freeze out, its heads are well filled and grain plump, Tappahannock also good; Bar-bour, well filled but thin; Mercer, midge destructive in some fields; Hardy, in some places badly winter-killed, in others more or less injured by fly and chinch-bug, smooth varieties on low land hurt by rust; Cabell, complaints of smut, rust and midge. Kentucky: The result with Touzelle is same as in more southern states, not suitable for climate. and badly rusted; where Fultz and Tappahannock were sown the result has been excellent; in Scott, Tappahannock a fair crop, Fultz 75 to 100 per ct. better; it is the finest wheat yet seen here; McLean Co., Tappahannock and Fultz very successful, but Touzelle too late for the climate; Taylor, Fultz has done splendidly, Touzelle a failure; the Fultz stands winter better than any other, brings fine large heads, 60 or 70 grains per head, grain large and plump; Harden, average 6 bushels to the acre, Fultz will make 15 bushels; Fayette, generally thin, late crops badly rusted, midge hard on late sown wheat. Ohio: Hamilton Co., Fultz wheat gives satisfaction; Delaware Co., Fultz wheat doing splendidly, large yield and good flour; Vinton, Fultz our best wheat; Pickaway and Adams, Fultz and Tappahannock very fine

The American Farmer

RURAL REGISTER.

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BALTIMORE, MD., SEPTEMBER 1, 1873.

THE FARMER FOR 1874.—Our subscribers will, we hope, be prompt to commend, as far as they can do so, to their friends and neighbors, our paper for the coming year. In our next issue we will announce a very liberal and attractive list of premiums for subscribers, and we hope that not only will those of our friends who have heretofore sent us clubs renew their lists, but that all of our readers will, as far as possible, send additional names when they renew their own subscriptions. We hope for the coming volume to at least double our present list, and can very easily do so if our friends will give us a little help. The fairs will present a good opportunity for canvassing for us, which we trust will be availed of.

We aim to make the Furmer solid, substantial and practical. Neither our limits nor the design of the paper admit of meretricious and useless matter; and such would not be valued by the class of intelligent farmers who comprise the main body of our readers, and who, we flatter ourselves, constitute an auditory not surpassed, if equalled, by that of any other journal of its class in the country for intelligence and discernment.

As an additional inducement for the sending in early of clubs, we will send FREE to all new subscribers for 1874 the Oct., Nov. and Dec. Nos. of this volume. These to clubs as well as to single subscribers. Any other three numbers of this volume, if we have them on hand, will be substituted for those named, if desired.

Thow that the harvests for the year are garnered in, or measurably safe, and the results of varying methods discernible, we ask our friends to give us and their fellow culturists the benefit of their experience and of whatever experiments have been made in the cultivation of their crops. Nor is it needful that the successes only should be told. Signal failures will be of value when communicated, since their narration may prevent others falling into errors apt to terminate similarly. We hope to be favored with many short and practical articles of great service—and also to receive them as early in the month as practicable.

THE COMMUNICATION OF COL. WILLIS in this issue deserves an attentive perusal, such as it doubtless will receive, the conclusions arrived at being those of a thoughtful and successful agriculturist.

THE AGRICULTURAL DEP'T REPORT, for August, of the Cotton crop, indicates a general improvement in its condition and promise since July 1st. The average condition in all the counties of the cotton states reporting, was, for August 1st, 91.8 against 85.5 for July 1st. The chief drawback appears to be insect ravages. In N. Carolina the cotton louse is reported very bad in four counties. The caterpillar worm, boll or web worm, and army worm, are reported at work in Ala., Miss., La., and Texas. Paris green and other destructive agents are being experimented with, in some cases, it is said, successfully. The serious injury so far inflicted is not great, and whether it will become so depends on the weather. The crop generally is reported backward.

A CHEESE FACTORY.—A N. C. correspondent asks for certain information about the establishment of a Cheese Dairy. His letter came too late for an answer in this number, but we will endeavor to give the desired information in our next.

FRAUDS IN GUANO.-We published some months ago, the report made by the chemist employed by the N.Y. State Agricultural Society to analyze samples of Peruvian guano, obtained from the principal dealers in that article in N. York, from which it appeared that out of about half a dozen different samples obtained from as many dealers, but one was found to approach the general standard of the article as sold by the Peruvian government agents of that city. The publication of these facts not having stopped the sale of the adulterations, the Agents have commenced suit against five firms in N. York, who are among the largest dealers. The complaint sets forth that the empty bags which originally contained the genuine article, and having the trade-mark of the Peruvian government upon them, are bought from farmers for a few cents each, and refilled with a spurious article, or, in some cases, with a portion of the genuine article, and sold as Peruvian guano. The dealers deny having sold it as genuine after mixing it with Peruvian guano, but that it has been adulterated and sold as such to gardeners who prefer the mixed at a greatly reduced price-this of course will be easily tested on the trial. It is to be hoped that the utmost penalties of the law will be inflicted upon those found guilty of such oftrepeated deceptions upon the ignorant and unwary.

EDWARD STABLER.—This venerable agriculturist, well known to many of our readers as an enterprising and successful farmer and an able and instructive writer on agricultural topics, recently paid us a visit as he returned from California to his home in Montgomery Co., Md. Although now in his 80th year he has within the past few weeks travelled by rail and wheel and in the saddle, between 7000 and 8000 miles, hunted antelope and other game with the keenness of the thorough sportsman, having killed in one day in the week before he was in our office three buffalo. Except that he was a little travel-worn, our esteemed friend seemed to have sustained the fatigue of his long trip quite as well as many younger men bear less tiresome journeys, and we trust that the change of air and scenery he has experienced will so strengthen him and reinvigorate his health, that many years may yet, as a consequence, be added to his useful and well-spent life.

DISCUSSION BY CHEMISTS .- The Aug. No. of the Plantation, published at Atlanta, Geo., contains a letter from Prof. Mussa, of Italy, a pupil of Prof. Ville, celebrated for his recent works on Agricultural Chemistry, in reply to a criticism thereon of Prof. Pendleton, of the Agricultural College of Georgia, and a rejoin. der by the latter. We only allude to the controversy between these learned gentlemen, for the purpose of giving the conclusion of the remarks of the latter upon a subject which we have frequently, for years, been endeavoring to impress upon the attention of the farmers and planters of this country, viz., the necessity, whilst using commercial manures, of not neglecting to supply a sufficiency of organic materials to produce humus or mould upon which they can act-and the action of Mr. Mechi, the English farmer, as mentioned in our last, proves the correctness of this theory. Year after year Mr. M. continues to use Peruvian (ammoniated) guano, with a small quantity of salt to harden the stem; but he takes care to supply his land with heavy doses of barn-yard manure, in connexion therewith, with the happiest results Our farmers, on the contrary, when they were at the height of the fever for guano, neglected their home supply of manures, and in a few years their lands were left in a worse condition than before they commenced with the Peruvian article.

The editor of the Plantation, in alluding to the discussion by the learned Professors, remarks that "the general propositions of former articles of Prof. Pendleton, and the results of his experiments with Prof. Ville's chemical manure, the full formula, and again with some chemicals left out, on Hancock county soil, by the side of other preparations, seem not to be disputed, and have been dropped out of the controversy. The attack upon Prof. Pendleton is narrowed down to the humus theory and its definition. To the practical reader, it may appear that the difference is that between tweedledum and tweedledee. decayed vegetable matter and turning under green crops is a very important agent in improving soil and producing crops, is manifest to every farmer. How it is done, the chemical evolutions and combinations which occur in Nature's chemistry, acting and reacting upon each other and upon other elements in the earth, is to be shown by the science of the chemist."

With this introduction, we will give the closing remarks of Prof. Pendleton, which embrace the sum and substance of the controversy, and which we deem of great practical value. He says:

"M. Grandeau, the opponent and critic of M. Ville in France, has satisfied himself that humus, in its widest sense, embraces the veritable plant-food. That the "matiere noire"—black matter—extracted from a soil by ammonia, contains the humus, and, chemically associated with it, the soluble mineral food of plants; and he lays it down as a deduction from his experiments, that the amount of humus in a soil stands in a direct ratio to its fertility.

Without adopting these views of M. Grandeau, I am free to say, as Dr. Shepard has recently said, in noticing this theory in the Rural Carolinian: 'All practice appears to warrant the views of this school, since it is well-known that only those lands are fertile that possess a considerable quantity of humas, and that it is for the interest of every cultivator of the soil to promote its forma-

tion.'

We reiterate our positions as heretofore taken in the following propositions, and will maintain them against M. Ville, Prof. Mussa, or any of the advocates of their theories in this country, provided they will keep their temper and attempt argument rather than ridicule:

1. No soil is fertile without organic matter

or humus.

2. That in our climate plants will perish without maturing their fruit by the application of chemical fertilizers in a soil denuded

of organic matter.

3. That Peruvian guano, superphosphates and chemical salts, such as M. Ville's formulas, increase the production of cotton in our soils according to the ratio of humus or organic matter in them."

PLANT FOOD.—We have above noticed the discussion on this subject in the Plantation-and as we deem it one of the utmost importance, we cannot overlook a communication bearing upon the question, in the last number of the Southern Cultivator. The writer says very properly that much that is written upon the recondite subjects of organic and inorganic substances which enter into the composition of plants, or which constitute the best plant food, is thrown away upon the great majority of readers, but "practice confirms the truth or fallacy of theorythe last without the first is worthless, whereas the former may do without the latter altogether. A few well authenticated facts, attended with success, will be followed in practice without a clear understanding of their modus operandi." He then proceeds to give an illustration in point, which would seem to

bear out the position, so positively assumed by Prof. Pendleton, and asks the question, "Why does the same amount of fertilizer produce so much better effect on one field than on another, of apparently equal quality?" He thus states the case:

"I rented to a freedman an old field which had not been cultivated in fifteen years. It was utterly exhausted before it was turned out, and was as poor as it could be. It grew broomsedge until the pines sprang up, and then the grass and pines grew together. My cattle ran on it. The freedman cut down the pines, ploughed the land twice with a scooter, and with some small plough, (perhaps a shovel,) made what he called beds, and in shallow furrows, made with a scooter, scattered about 150 lbs. fertilizer to the acre, and upon it dropped his cotton seed, and covered with a board. On an adjacent field of the same quality of land originally, but which had been kept in cultivation and more or less manured every year, I planted cotton, ploughing deep with a two-horse Dodge plough, and applied 200 lbs. Merryman's ammoniated phosphate with 10 bushels rotten cotton seed to the acre, and cultivated well. The freedman's cotton is better than mine. Why? Because his Because his ground had vegetable matter derived from the broomsedge and pine straw, of which my field has been deprived by continued cultivation. I conclude, therefore, (and this is the object of this communication,) that fertilizers put on land-no matter how liberally-without a due supply of humus, that is, vegetable matter, is thrown away. And the complaints we often hear of the worthlessness of the fertilizer is due to this cause."

THE VIENNA INTERNATIONAL EXPOSITION. -The American exhibitors, notwithstanding the disgraceful beginning in their department of the Show, bid fair now to attract more attention and gain greater eclat than those from other nations, not in the finer fabrics which are on exhibition, but in the more substantial products of our soil and the handiwork of our machinists, particularly in our Agricultural implements. The Cotton, Rice, Sugar, and other Southern products, are very much admired, and our Reapers and Mowers, and our Sewing, Knitting and other such like machines, have eclipsed by far, it is said, all others on the ground. As a number of these implements are made or sold in Baltimore, and well known to the public, we will give the report of the committees thereon as soon as received; the annunciation will be made this month; until then, we do not deem it necessary to publish the reports which have been made as to the result, which of course, are mainly surmises.

SALE OF IMPORTED JERSEY CATTLE.—The sale advertised in the American Farmer, by Mr. Herkness, Auct., at Philadelphia, on 15th July, was very successful. The Practical Farmer of that city says of the animals sold, "they were carefully selected, and we have never seen together a more beautiful lot of Jersey cows and heifers. They were representative animals, having all the well known points of the fine Jersey cow-deer-like head and neck, fine tapering limbs, solid colors, black points, slim tails, with appearances also of giving good returns at the pail." The prices paid for the heifers were \$300, 280, 260, 245, 280, 215; a bull 15 mos. old, \$230a bull calf, \$45. Most of the stock was sold to remain in Pennsylvania. The lot was sent out by Ed. P. P. Fowler, of Jersey Island, Eng., and "considering the season of the year, and the short notice for distant purchasers, (the above paper adds,) the prices secured were very fair. It was well managed by Mr. Herkness, who, in his stock sales, has a fashion of getting all that animals will bring, and rather more than persons intended to give. On this occasion a platform was erected, covered with sawdust, on to which each animal was separately led; and immediately behind was a large green drop-curtain, reaching from the ceiling. This had a good effect, by preventing attention being directed to other animals than the one being sold. It acted also somewhat like a frame to a picture, bringing them into good relief."

A correspondent at Laurensburg, N. C., in remitting for a lady, (a new subscriber,) adds:—

"So far as I may be able I will get subscribers; and if I can, I will get up a club of

ten, and all get it for \$1 each.

"The cotton in this section has greatly improved, and is now looking very promising, though a little late. Corn will be under an average for want of proper work. Some neighborhoods, too, have suffered for rain, though for some days the rains have been more general."

[We hope others will follow the example of our friend, and endeavor to get up clubs in their respective neighborhoods. In regard to back numbers, we would remark, that we cannot supply the two or three first Nos. of this volume; all the others will be sent to new subscribers ordering them. Either of the last two or three months' Nos. are worth more than a year's subscription to any intelligent farmer.—Eds. Far.]

Auction Sale of Jerseys in Baltimore.

—We call attention to the sale of Messrs.

Jesse & James W. Tyson, in our advertising pages, of a number of Jersey (herd-book) Cows and Heifers, to take place on 17th Sept.

A more beautiful and useful lot of Jerseys cannot be found anywhere. Catalogues will be sent to those wishing to purchase, and we will purchase and ship any on the list to parties ordering them, who will so authorize us and place us in funds for the purpose.

Pennsylvania Agricultural Society.—The Fall Exhibition of this successful society will be held in Philadelphia, from the 16th to the 19th of September, and it is designed to make it even more than usually National in its character, the meeting of the American Pomological Society at Boston the week previous enabling Fruit growers from the South and West to visit Philadelphia as they return home, which they are cordially invited to do. The premiums for Fruits, Flowers and Vegetables are all on a liberal scale. For the information of our North Carolina subscribers we annex the following, which will be of interest to them:

At a meeting of the Pennsylvania Horticultural Society, held on the 20th of May, 1873, a resolution was passed, as follows—

Resolved, The Pennsylvania Horticultural Society having learned that the soil and climate of North Carolina is exceedingly favorable to the production of fine Fruit, we hereby earnestly invite the Fruit Growers, Societies and amateurs of that State to send specimens of their products, such as Apples, Pears, Grapes, and specimens of native Wine, &c, to the Autumnal Exhibition of this Society, to be held in Philadelphia, on Tuesday, September 16th, 1873, to continue four days—and that tables be set apart for the display of this Fruit, and that Money-Premiums and Medals be awarded by the proper committees for such collections of Fruit, agreeably to the published schedule of the Society.

Packages may be sent by Express, addressed to Thomas A. Andrews, Superintendent Horticultural Hall, Philadelphia, Pa. Letters respecting contributions, may be sent to the

same address.

THE NEW YORK AGRICULTURAL SOCIETY.

—The show of this Society for 1873 will take place at Albany, commencing on Wednesday, Sept. 24th, and continuing one week, the grounds being closed on the intervening Sunday. This plan is a new one, and seems worthy of a general trial, it having been

adopted with a view to avoiding the necessity for exhibitors being on the road both to or from their homes on Sunday. Now they will be absent but one Sunday, "and that under the shelter of the Society's buildings, with all the security and comforts which can be provided." The list of premiums is liberal and varied, there being 665 in number, amounting to over \$10,000, none being offered for horse trots or races. Competition is open, absolutely without limit as to locality, and the only charge made is the nominal one of one dollar. All entries were required to be made by the 23d of August.

California Wheat.—Friend Edw'd Stabler, on his return from the wonderful wheat fields of the Golden State, which he described in his letter in the last issue of the Furmer, brought us, as promised, some specimen heads of the grain. For size, fullness and beauty, they are unsurpassed, some of the heads measuring seven inches in length. All are white wheat, one of the samples being bearded, the others bald varieties. They are on exhibition at our office.

FINE OATS.—A subscriber to the Farmer in Baltimore Co. has left with us a very hand-some specimen of oats, which yielded very

largely. He says :-

"The seed was purchased of Mr. E. G. Penrose, N. Howard street, and raised by him on his farm in Carroll Co. His seed was imported a few years ago. Two bushels of seed were sown on the 4th of April last on one acre of ground, where corn was last year, and not manured. One-tenth of the acre (the best of it) was cut for soiling, and the other nine-tenths gave 44 bushels by measure, weighing 36½ bas to the bushel, making 50 bushels standard weight. The product was more, they having been badly threshed, and on the field."

Cotswold Rams.—Purchasers desiring some good lambs are referred to the advertisement of Mr. Cobey, who writes us he has some good ones to be disposed of at reasonable prices.

FULTZ WHEAT.—We have received from Messrs. Th. Levering & Son, and also from Messrs. C. W. Slagle & Co., samples of this wheat, which they offer for sale, and which can be examined at our office. Price, \$2.25 per bushel.

LIME AND FERTILIZER SPREADER.—This implement, advertised in our columns by Messrs. Thornburg & McGinnis, is said to fill a want long felt. A correspondent of the American Furmer, in Carroll Co., Md., sends us a report from his county papers of the trial made of it near Westminster, and says he is disposed to endorse all that is said of it:

The exhibition took place in the presence of a number of farmers and practical machin-Ashes were taken from a heap, wet by recent rains, but the machine spread them evenly in strips six feet wide, at the rate of from five to twenty bushels per acre, the quantity being regulated in a moment by the driver without leaving his seat. Plaster was spread as low as one bushel per acre. A drill was then placed in the spreader to show how lime, phosphates or other fertilizers could be sowed on rows of corn or potatoes. This motion is very simple, and is easily changed so as to drill from two to four feet apart, as may be desired, and at rates as low as half a bushel to the acre. There being but a small quantity of manure available, the machine was taken to the Alms-house farm, where Mr. Wilson had lime ready for spreading. Its operation here was not only satisfactory but astonishing. Our machinists gave it a thorough and complete examination in every particular. They inform us that it is perfect, not liable to get out of order, and entirely dispenses with the great amount of labor and unpleasantness heretofore experienced in distributing lime. The machine will hold twenty bushels of lime; the load is thrown in from the tep, and all stones or other matter too large to pass through the sifters are cast aside. The lime-dust in operating is not in the face of the operator, but falls in a shower underneath his feet.

It is understood that a number of these machines are to be made at one of the agricultural implement works at Westminster.

The Gunpowder Farmers' Club, of Balto. Co., propose to include this spreader in a number of implements and machines which they have appointed a committee to publicly test.

EARLY MAY WHITE WHEAT.—Larkin S. Garrett, Esq., of King Wm. county, Va., has forwarded to his commission merchants of this city, his crop of wheat of the above variety, (320 bushels,) and says of it:—

"It is the most productive and hardiest wheat I have ever raised. I raised through the crop this season 18 bushels per acre upon a clean pasture fallow, without either manure or fertilizer of any kind, and the season in our section was very unfavorable for the wheat crop; it doubled any other kind of wheat raised in our county. I would like for

some of your Maryland farmers to try it. I am sure it would suit that climate. Were it necessary, I could get every farmer in my whole neighborhood to certify to what I have said in regard to the Early May Wheat."

THE MARYLAND AGRICULTURAL SHOW commences this year Octr. 7 and lasts four days. The premiums amount to about \$10,000, including \$1,800 for trots and races. The list is about the same as last year, with some improvements, as we think, in the class of Poultry. The buildings and grounds are now being put in order under the direction of Mr. Richard F. Maynard, the Marshal, and Mr. Wm. D. Brackenridge, Superintendent of the Exhibition Hall.

Fair List, 1873.

| American Institute, New York Sept. 10 |
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| American Pomological, Boston, Mass Sept. 10 |
| |
| Arkansas, Little Rock Oct. 13-17 |
| California, SacramentoSept. 15-21 |
| Carolinas, Charlotte, N. C Nov. 25-28 |
| Cincinnati Industrial Sept 3-Oct. 4 |
| Colorado, Denver Sept. 30-Oct. 5 |
| Cotton States, Augusta, Ga Oct. 21-24 |
| Georgia, Macon |
| Illinois, Peoria Sept. 15-20 |
| Indiana, Indianapolis Sept. 10-Uct. 10 |
| Iowa, Cedar Rapids Sept. 8-12 |
| Kansas, LeavenworthSept. 29 - |
| Kansas, Topeka Sept. 22-25 |
| Maine, Bangor |
| Maryland, Haltimore |
| Mary and Institute, Baltimore Oct. 1-31 |
| Michigan, Grand itapids Sept. 16-20 |
| Mcntana, Helena Sept. 29-Oct. 4 |
| Minnesota, St. PaulSept. 23-25 |
| Mississippi, Jackson Oct. 13-16 |
| Nebraska, Lincoln Sept. 1-6 |
| New England, Boston Sept. 2-5 |
| New Hampshire, Manchester Sept. 30-Oct. 2 |
| New Jersey, Waverly Sept. 16-19 |
| New York, Albany Sept. 24-Oct. 1 |
| North Carolina, RaleighOct. 13-18 |
| Ohio, MansfieldSept. 1-5 |
| Oregon. Salem Oct. 6-11 |
| Pennsylvan a, Erie Sept. 30-Ogt. 3 |
| Penusylvania Horticultural, Philadelphia. Sept. 16-19 |
| Rhode Island. Providence Sept. 9-11 8t. Louis Association, St. Louis, MoOct. 6-15 |
| South Carolina Columbia |
| South Carolina Columbia |
| Tennessee, Nashville, |
| Vermont, Hutland |
| Virginia, RichmondOct. 28-31 |
| Virginia and North Carolina, Norfolk, Va Oct. 7-10 |
| West Virginia Control Sock Clerkshur Cont. 1-10 |
| W Virginia State Scotz Charleston Cont. 20 Cot. |
| West Virginia Central Soc'y, Clarkeburg. Sept. 16-18 W. Virginia State Soc'y, Charleston. Sept. 38-0ct. 4 Wisconsin, Milwaukeo |
| и пооныт, жиманиев верт. 23-20 |
| MARYLAND COUNTY PAIRS. |
| |

Alleghany, Cumberland Sept. 16 19
Carroll, Westminster Sept. 39-Oct. 3
Frederick, Frederick.
Kent, Worton Station Sept. 30-Oct. 2
Montgomery, Rockville Sept. 30-Oct. 2
Washington, Hagerstown

Tall Clover—Mr. J. H. Cordell, a banker of Saline county, N. Y., exhibited on 'Change in this city a few days ago, a sample of clover cut from a thirty-acre field belonging to Mr. Joseph Huston, which was five feet four inches high.—Coleman's Rural.

HYGIENE.

THE CHOLERA.—As this epidemic is prevailing to a considerable extent in some sections of the country, we deem it proper to publish the following remarks upon it from Dr. Jenkins, originally published in the Louisville (Ky.) Courier:

Cholera usually begins with a simple diarrhea, which is too apt to escape notice, particularly in thoughtless persons and in children. If it can be seen by physicians in this early stage, a large proportion of the cases can be cured; and the earlier it is seen by physicians, the better it is for the patients, and easier for the doctors.

In time of cholera, every movement of the bowels, after the customary daily one, must be considered as a ten lency toward the disease, and a second unnatural movement establishes a diarrhea, and should never be disregarded. Parents, therefore, should watch their children closely at such times, and all parents should pay strict attention to themselves, for this, the most curable stage of the whole disease, is often of short duration, and in it the disease is easily stopped in a large majority of cases.

The danger is in proportion to the frequency and copiousness of the colorless discharges from the bowels, and vomiting and cramps, though often easily checked by the early attention of a physician, are always to be regarded as warnings of great danger.

No matter how slight or mild the diarrhen may be, the physician should be informed of it if he be at hand or can be easily reached. But if he be not at hand, time should not be lost in waiting for him, and with prompt and proper attention he may then not be needed at all.

SYMPTOMS OF CHOLERA.—Cholera may be known by the following symptoms, divided into three stages of the disease:

First Stage—Diarrhea; frequent pain in the bowels; chilliness; tendency to nausea; headache; cold, pale surface of the skin; cramps.

Second Stage—Increased purgation, with vomiting and cramps; general prostration; pallid, hollow look of features; the limbs subject to violent cramps; fingers contracted, with bluish color of nails; pulse quick and small; urine suppressed.

Third or Collapse Stage—Scarcely any pulse at wrist; surface of body cold; color of skin bluish; breath cold; voice a sepulchral whisper; oppression at the chest and cramps; cadaverous, earthly odor of body; cold, clammy perspiration; extremities numbed and devoid of warmth; frequent moaning, and all secretion of urine stopped.

TREATMENT.—The following mixture should be kept at hand in every family; it is a remedy approved by many of the leading physicians of our city, and may be relied

PRESCRIPTION.—Take of gum camphor 2

drachms, chloroform 2 drachms: dissolve the camphor in the chloroform, and add to the solution tincture of opium denarcotized, \(\frac{1}{2}\) ounce; tincture of ginger, \(\frac{1}{2}\) ounce; sirup of acacia, 64 ounces, and mix the whole together

with vigorous agitation.

DIRECTIONS .- For Adults in First Stage-Administer two teaspoonsful of the above mixture in any bland fluid without delay; give a cup of hot tea; apply bottles of hot water to the abdomen, feet and body. Should warmth or relief not follow in a quarter of an hour, again give a teaspoonful of the mixture. If thirst ensue, as much cold water, if preferred, as desired. Keep the body well covered, to induce perspiration.

Second Stage—Should the first stage lapse into the second, increase the frequency of the dose, giving a teaspoonful every ten minutes until the pulse rises, becomes fuller and stronger; the cramps, vomiting and purging mitigated, and breathing less embarrassed. Give warm, demulcent drinks; avoid stimulating ones. If food can be retained, plenty of fresh, strong soup, beef tea, arrowrootindeed, anything wished for of a wholesome,

nourishing character.

Third Stage—Give the mixture in doses varying from a half to a teaspoonful every few minutes, so as to allay spasms and assist in restoring the secretion of urine and capillary circulation. Let the sufferer occasionally breathe or blow through a glass tube in a bottle of lime water; if improvement take place, the lime water will change to a milky appearance, showing the liberation of pent-up carbonic acid in the system. By watching the progressive advance or retrogression of the disease in such a manner at this critical period, the most hopeless case need not be despaired of.

The directions above given presume the disease to pass through all the stages from the first. Should the second stage be developed before relief is at hand, two or three teaspoonsful will be the dose to begin with. And should it also happen that the third stage be the period at which treatment commences, three or four teaspoonsful of the mixture should be at once administered without a moment's delay. In all other respects the instructions should be persistently carried out.

It should be borne in mind that there are many cases of cholera in which there are no

premonitory symptoms.

ANOTHER RECIPE FOR CHOLERA.—The N. Y. Scientific American vouches for the efficacy of the following remedy, the editors having seen it effectually tested during the rage of the cholera in that city some years agoit was known as the "Sun Cholera Mixture," and was given to the public by the most eminent physicians of the day. It is not to be mixed with liquor, and may be compounded without professional skill-dose 10 to 30 drops.

"Tinct. opii, capsici, rhei co., menth. pip.

"Mix the above in equal parts; dose 10 to In plain terms, take equal parts 80 drops. tincture of opium, red pepper, rhubarb, peppermint and camphor, and mix them for use. In case of diarrhea, take a dose of 10 or 30 drops in 3 or 4 teaspoonfuls of water. one who has this by him and takes it in time will ever have the cholera. We commend it to our friends, and hope that the recipe will be widely published. Even when no cholera is anticipated, it is an excellent remedy for ordinary summer complaint. It can be carried about the person in a small vial."

REMEDY FOR CROUP IN ONE MINUTE. This remedy is simply alum. Take a knife or grater and shave or grate off in small particles about a teaspoonful of alum; mix it with about twice its quantity of sugar, to make it palatable, and administer as quick as possible. Its effects will be truly magical, as almost instantaneous relief will be afforded.

FOOD MEDICINE. - Dr. Hall relates the case of a man who was cured of his biliousness by going without his supper and drinking freely of lemonade. Every morning, says the doctor, this patient arose with a wonderful sense of rest and refreshment, and a feeling as though the blood had been literally washed, cleansed and cooled by the lemonade and the fast. His theory is, that food will be used as a remedy for many diseases successfully. an example, he cures cases of spitting of blood by the use of salt; epilepsy and yellow fever by watermelons; kidney affections by celery poisons, olive or sweet oil; erysipelas, pounded cranberries applied to the parts affected; hydrophobia, onions, &c. So the way to keep in good health is really to know what to cat -not to know what medicines to take.

DOMESTIC RECIPES.

MAITRE D'HOTEL SAUCE.-Take half a pint of melted butter, add to it the strained juice of a lemon, a tea spoonful of chopped parsley, and cayenne pepper and salt to taste, and just let

JOSEPHINE CAKES.—Beat half a pound of butter to a cream, then beat in half a pound of brown sugar and five eggs, well beaten first. Mix it then gradually into a pound of flour, add half a pound of currants washed and dried, and a glass of wine. Bake, when well beaten together, in a buttered pan.

A simple mode of keeping butter in warm weather, where ice is not handy, is to invert a common flower pot over the butter with some water in the dish in which it is laid. The orifice at the bottom may be corked or The porousness of the earthenware not. will keep the butter cool. A wet cloth laid over the inverted pot will soon cool off the butter by the evaporation of the moisture.

THE BALTIMORE AMERICAN.-This journal on the 20th of August published a very interesting account of its history, and incidental thereto a sketch of Baltimore for the 100 years of the existence of the paper, that date of its issue being its centennial anniver-Its narrative of the successive changes and advance of both the city and paper was quite graphic, and was read no doubt with much satisfaction by most of the denizens of this city and state. It is shown by the account that the founder of the American, Mr. Goddard, rendered very efficient aid to the patriot cause during the Revolution. Our senior was an apprentice in the office during the war of 1812, and for some years thereafter, and has a vivid recollection of many of the events detailed in the very interesting account to which we have alluded. After the attack on Baltimore, on the 12th Sept., 1814, when he was too young to be in the ranks with nearly all his associates of the office. he was consequently pretty much in charge of the printing department, the paper having been suspended for some week or ten days, and when the song, "The Star-Spangled Banner," was brought to the American in MS., it was, according to his recollection, first placed in type by him. The American states that never in its experience has its condition been more prosperous.

THE KENT Co. (MD.) AGL. ASSOCIATION'S FAIR will be held at Worton Station, Sept. 30 to Oct. 2, 1873. Ample arrangements have been made for the accommodation of visitors and exhibitors, and stock, machinery, &c., can be landed directly on the Fair Grounds. The premiums are open to all competitors, and pains will be taken to extend every courtesy and convenience to exhibitors. Dr. E. A. Vannort is Secretary of the Society, to whom all inquiries should be addressed. See advertisement in our Supplement.

READ THE ADVERTISEMENTS .- Our advertising sheets this month are unusually full. We have no space for particular reference, but we commend to our readers attention the various concerns seeking their patronage. The pressure upon us has forced us to curtail several of the departments of the Farmer.

CHARLOTTE HALL SCHOOL, St. MARY'S Co., Mo.-This is one of the oldest schools in Maryland, and has long been in high repute for the excellence of its system and the thoroughness of the instruction there imparted. It will be seen from our advertising pages, that its advantages are presented to the no-· tice of the readers of the Farmer.

NURSERYMEN AND SEEDSMEN .- This being the appropriate season for their appearance, advertisements from a number of the best known and most reliable firms in these trades will be found in our Advertising Supplement, and we call attention to their offer-

The florist.

Floriculture, &c .- Sept., 1873.

By W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore county, Md. Ornamental Trees and Shrubs

We presume that little work of importance is done in the Green-house and Flower Garden the present month, save in the first named attending to shifting into larger pots such plants as require it, and putting in general good order the whole collection; in the Flower Garden and Pleasure Grounds keeping the grass neatly cut, collecting and drying seeds as well as subduing weeds, and rolling the walks and roads after a rainy spell of weather.

In fulfillment of a promise made last month, we will now make some remarks on a few hardy trees and shrubs

Betula alba and pendula of Europe, and B. lenta of the U. States, are three of the most useful, fragrant and graceful species of the Birch tribe, the last being a rapid grower, and known as Black Mahogany or Cherry Birch.

Aralia Spinosa, sometimes called the Angelica tree or Hercules Club. The stems are thorny, the flowers being produced in large umbels, having an odor somewhat like honey, which attracts numerous bees, who feed on it.

Crategus, or Hawthorn—the fruit of the C. odoratissima from the Crimea—is very agreeable, both as regards its flavor and fragrance.

Magnolia. The species which takes the first place in rank is that most noble evergreen tree, the M. grandiflora of the Southern States, three or four varieties of which prove to be quite hardy in Maryland, displaying their gorgeous, fragrant blooms more or less during the summer months. Next to this in general esteem is the M. glauca or Swamp Magnolia; though not so dashy in its general habit and character, it is nevertheless the most fragrant of all the species, (if we except the dwarf Chinese M. fuscata, which exhales an aromatic odor that is truly re-freshing.) This variety, though usually found in swampy places, yet nevertheless, when grown by us from seed, thrives well and its blooming season is considerably prolonged when grown on high, dry land. The Chinese M. conspicua, though not so fragrant as the two foregoing, is nevertheless a magnificent tree, and valuable on account of its blooming so early in spring and in being perfectly hardy. M. tripetala and macrophylla, are both highly ornamental and attractive in flower and foliage, but the smell of both is by many not considered agreeable.

Fagus sylvatica, var. atrorubens—the purple-leaved Beech—this, together with the Fern leaved variety, as trees, form neat and very striking objects of beauty, but what little fragrance they give out is only about the season they begin to shed their leaves. Prunus Mahaleb, or Perfumed Cherry—a

small tree, with spreading head and neat round leaves, the flowers giving out an agreeable odor; the wood is highly perfumed and used by the Germans in cabinet work and the manufacture of tobacco pipe stems. It is also the stock used by nurserymen to dwarf the various varieties of the common edible cherry.

Tilia—the Linden or Lime tree, of which there are a number of species and varieties, natives of the United States and Europe, all are desirable for the planting of avenues and decoration of lawns, producing in June and July a profusion of flowers, whose melliferous glands being highly charged with a sweetish substance which attracts bees, the honey which they extract therefrom being consid-

ered of the finest quality.

Paulonia imperialis—a Chinese tree, which from its rapid growth, large foliage and spreading branches, is stamped as a tree admirably adapted for street and avenue planting in the Middle and Southern States; it forms its wooly flower buds in open spikes in the fall, these expand in spring before the leaves make their appearance, are showy, and dif-

fuse an agreeable odor.

Calycanthus floridus—Allspice—or better known as Sweet-scented Shrub, of which there are two distinct varieties—one with broad leaves and highly aromatic flowers, the other having smaller leaves and flowers less fragrant, both of which are deservedly great favorites with the people. There are two or three other species, natives of the United States, but of much less interest for their sweet scented qualities.

Jasminum Chrysanthum and J. nudiflora both of which have yellow flowers, the first showing them in June and July, the last in February and March, before the leaves are

expanded.

Vitex Agnus, Castus—Chaste tree—a large bush or small tree, with whorled spikes of blue or pale lilac flowers; these, with the bruised leaves, emit a strong sub-aromatic taste and odor; a very desirable tree, on ac-

count of its flowering late in season.

Philadelphus granditlorus and coronarius, known as Mock Orange; the odor of the flowers being a good counterfeit of real Orange blossoms. All the kinds enumerated in catalogues are well worthy a place in any

garden, but the two named above we deem the best.

Lonicera fragrantissima—or sweet-scented erect growing Honeysuckle, which is a bushy free growing shrub of the largest size, producing in early spring its fragrant flowers in great profusion, the smell of which resembles Violets, which in a close, moist morning can be detected at a distance of one hundred

Clethera ulnifolia—a native shrub of upright growth, found in the Middle States growing along the banks of streams. The flowers are produced in July of a white color, throwing out a perfume which resembles that of Spiraea ulmaria, or Meadow sweet.

This bush is very desirable, easy to transplant and grow.

Cydonia japonica—or Japan scarlet flowering Quince. Of this showy plant there are many varieties, all alike well adapted for ornamental hedges, or planting out singly on the lawn; the fruit is about the size of a pul-

let's egg, of a yellow color, and then smells like mellow ripe apples.

Then comes the Syringa or Lilac, in its many varieties. No garden is complete without its lilac bushes, and no cottage, however unpretending, but should have a bush of it planted so near that the agreeab e odor of its

flowers may be felt.

Last, though not least, comes the Rose, the queen of the garden, whose kinds and colors are almost innumerable, many of them possessing constitutions adapted to withstand any climate, whether torrid or frigid. Standard or high stemmed Roses form beautiful objects when judiciously introduced and properly cared for, the great draw-back being that the stems on which the double kinds are budded produce single flowers. These stems often send out branches or suckers, which, if permitted to remain, will out-grow and ultimately kill the double variety. Roses as a general thing require a deep, well drained loamy soil, into which a good supply of well rotted manure should be dug annually.

Papers from a Garden-No. 1. BY JANE BOSWELL MOORE.

Not least among my reasons for having a flower garden, is its refining and pleasuregiving influence on those who live near, and on passers by. Every new blossom and each improvement is made the subject of comment and admiration by the children in the neighborhood, many of whom live in rude Virginia log-cabins, close to which may be found the indispensable (?) and never very cleanly kept "pig-sty" of the poorer class. To these little ones my simple garden may well seem like a bit of fairy land. They do not contrast its small extent and crowded area with lovely English parks, lawns, conservatories, dells, and shaded glens, or that princely domain of and shaded glens, or that princely domain of the "Dingle," near Liverpool, the home of two wealthy English ladies, charmingly in-terspersed with hill and dale, from which the eye was feasted by glimpses of the sea, the beauty of the whole having lingered ever in my memory, since that morning when, young, free, and ignorant of all before me, I saw it many years ago. * * I seated myself one many years ago. afternoon to enjoy that thrilling story of Mrs. Eilvarts, an English "Woman's Wrong," admiring its charming pictures of English life, the quaint farm-house, diamond panes of bay windows, completely embowered with roses, myrtles and fuchsias, and the stately avenue of elms leading to peaceful homes, in which were fought fierce, terrible battles with legal wrong and cruel oppression, which might make Englishmen hang their heads in shame; battles, too, in which the actors are not always triumphant as Sydney Talbot. I had

spent a busy day directing and helping Katy, who, with a bar of Armstrong's "best" in hand, had made my room and paint clean, white and pleasant to behold. On the snowy sills my few house-plants, fuchsias, smilax, etc., were replaced, and, book in hand, I tried to "lose myself" after the cares of the day. From my open window the varied foliage looked very beautiful, the stiff evergreen arbor vitæ, (I like the American best,) the immense Caladium and the new species of Ricinus, stately, tall, and with spreading umbrella like leaves; the feathery graceful Tamarix; airily delicate Cypress on invisible frames, starred with scarlet and white flowers; dark shining evergreen leaves of enonymus; standing stems of gladioli; purple-leaved Coleus, the "Chameleon" curiously ruffled and edged with green; sturdy box; floating honey-suckle, the light pointed green leaves of twining Ipomeas, their large blue trumpetlike flowers exquisitely bordered with white; the broadly striped Japanese corn; the round leaved troppolum or nasturtium; polished ivy; and masses of constant fragrant white alyssum, with brilliant portulaceas of every shade of red, white, pink, straw color, orange and variegated, edging grassy borders—all these I was fain to admit formed a pleasant picture. Two years ago nothing had ever grown here save weeds, nettles and wild grass, varied by heaps of clay, plaster, rub-bish and oyster-shells. How many homes are waiting-still waiting the touch of tasteful, improving fingers—the magic of vine, bush, tree and blossom?

A NEW FERTILIZER.—Here is something worth a trial by window plant growers:— Some time since we called attention to a new chemical fertilizer for horticultural purposes, suggested by Dr. Jennel, of Paris. Les Mondes, of recent date, in commenting on results obtained by its use, says that it represents the fertilizing principles of at least one hundred times its weight of concentrated animal manure, and supplies to the plants nitrogen, phosphorus, potash, sulphur, and iron, in a completely soluble state. The compound consists of 400 parts of nitrate of ammonia; 200 parts bi-phosphate of ammonia; * 250 parts nitrate of potash; 50 parts muriate of ammonia; 60 parts sulphate of lime, and 40 parts sulphate of iron. These ingredients are pulverized and mixed. One drachm of the powder (about a teaspoonful) is then dissolved in a quart of water and a wineglassful of the solution given two or three times a week, in accordance with the health and luxuriance of the vegetation. The plants may be placed in any kind of earth, however poor, even pure sand, or may not be potted at all. It is stated that certain flowers, the fuchsia, for example, may be cultivated without earth

[*The Scientific American, which published the above formula, having been written to by several correspondents, says doubtless phosphate of ammonia is here intended.—Ed. A. F.]

by simply placing the stalks in a jar, at the bottom of which is an inch or so of water, just sufficient to cover the ends of the roots. To the fluid a proportional quantity of the fertilizer is added, as above specified, once in eight days. The foliaceous development of plants treated with the substance is said to be truly wonderful, and yet the rapid growth of the leaves does not interfere with the most luxuriant flowering. To this we may add luxuriant flowering. To this we may add that quite recently we have tried a compound hastily composed of the majority of the substances above detailed, merely as an experi-ment, on a small and sickly fuchsia. The plant was drooping, and little else remained° than a half dry stalk. After two applica-tions of the fertilizer, its effect was apparent, and at the end of ten days, during which probably half a pint of solution had been supplied to the earth, new shoots had sprung out, leaves formed, and the entire plant became perfectly loaded down with buds.

A Glowing Picture.

A lady writer from the isle of Singapore gives the following glowing pictures of tropical flowers in "Fruits and Flowers of the Tropics." published in Lippincott's Monthly:

We gathered whole handfuls of the lotus or water lily, with its pale blue, golden or rose-tinted blooms gleaming up from the sparkling waters. There are many varieties of this exquisite flower—blue, pink, carnation, bright yellow, royal purple fringed with gold, and more beautiful than all, pure virgin white, with the faintest possible rose tinge in the centre of each section of the corolla, a just perceptible blush, as of its own conscious loveliness. This last is the royal flower of Siam; borne before the king at weddings, funerals, and all state festivals, and the royal reception rooms are always beautifully decorated with the young buds arranged in costly vases of exquisite workmanship. In moist portions of the jungle were whole groves of fragrant pandanus, ferns of infinite variety, a species of wild mignionette, spotless japonica, fragrant tuberose, cape jessamine, wild passion flower, the calla Indica, with its five long petals of heavenly blue, then the innumerable company of roses, tea, moss, perpetual, cluster, climbing, variegated, and a score of others, queenly still even amid such a gorgeous array. The Victoria Regia and Rafflesia Arnoldi, the two largest flowers in the world, we saw in Dr. A 's garden-the flower of each two feet in diameter. Rarest of all was the night-blooming Cereus. There were six blooms in full maturity, creamy waxen flowers of exquisite form, the leaves of the corolla of a pale golden hue, and the petals intensely white. Its wondrous perfume is exhaled just at nightfall, and readily discernible for a mile. The odor partakes largely of that of lilies, violets, tuberose, and vanilla. It reaches perfect maturity about an hour before midnight; at three o'clock its glory is beginning to wane; at dawn it is fading rapidly; and by sunrise only a wilted worthless wreck remains."

Baltimore Markets, Aug. 21.

The quotations below are Wholesale Prices.

Breadstuffs.—Flour-Howard St. Super, \$4.50 a5.50; do. common to fair extra, \$6.00a5.50; do. good to choice do. \$6.75a7.25; do. Family, \$7.50a8.75; this and Indiana Super, \$4.25a5.25; do. common to fair extra, \$5.50a6.00; do. good to choice do. \$6.25a7.00; do. fow to medium extra, \$5.75a7.25; do. Kio Brands do., \$8.50a8.00; City Mills Super, \$4.50a5.50; do. low to medium extra, \$6.75a7.25; do. Kio Brands do., \$8.50a8.75; City Fancy brands, \$9.75a10.50; Fine Flour, \$3.50a4.00; ity Flour, \$6.00a5.25; Corn Meal, City, \$2.25; Western, \$3.10.
Wheat—Market quiet but prices firm; fair to prime Southern white, 170a177 cents; choice do., 180 cents; good to prime red do., 172a176 cents; prime to choice amber do. 178a180 cts; Western red, 160 cts. Corns—Demand active and market firm. Southern white, 72a75 cents; Western do., 70 cents; Western yellow, 50 cents; mixed Western, 58% cents.

Carlot of the control of the Breadstuffs. - Flour - Howard St. Super, \$4.50

**Bats-Light supply and demand good. Southern 47 conts; light Western mixed, 45 cents; bright do., 46 cents; light Western mixed, 45 cents; bright do., 46 cents.

**Rye-In some demand, with sales at 93a95 cents.
**Cotton—Market quiet and prices tending downwards. We quote Middling, 19a194 cents; low middling, 174a174 cents; good ordinary, 154a185 cents; strict do., 164a174 cents.

**Hay and Straw-Receipts light; prices firm. N. Y. and Penna. Timothy, \$22a36; Cecil Co., Md., do., \$24a37; Ryc Straw, \$17a18.

**Live Niock Beef Cattle—Market dull and prices somewhat depressed. We quote best on sale, 54a56; cents; generally rated first class, 44a54 cis; medium quality, 3%a44 cents; ordinary thin Steers, Ozen and Cows. \$2.83% cents.

**Hogs-Market active and prices firm. Light emouth hogs most in demand, at 7%a7% cents for corn fed, and 7a7% cents for still fod, net.

**Sheep-Fair to good, 4%a5 cents; good to extra, 5a5% cents, grose; Lambs, \$2a5.50; stock Sheep, \$2.50a3.50 per head.

**Mill Feed-Western Bran, \$16a18, and do. Ship Stuff, \$17a19 per ton; City Mills Brown Stuff, \$10a20, and do. Middlings, \$20a21 per ton.

Rice-Carolina.9% cents; Rangoon, 7% cents.

**Salt-Pine, \$2.35.40; Ground Alum, \$1.40a1.50 per sack; Turks Island, \$2a5 cents per bushel.

**Tobaceco-Market firm; prices well sustained. We quote Maryland froated, \$2.50a5.00; sound to good common, \$5.00a7.00; good to fine brown, \$10a 13.00; Virginia common to good lugs, \$6.00a6.00; common to medium leaf, \$8a9.50; fine to good leaf, \$10a11.50; selections, \$12a14.

**Whisheey-Western, \$1.00.

Whiskey—Western, \$1.00.
Wool—Ordinary washed, in good condition, 34 cents; tub-washed do., 48 cents; pulled long, 87% cents; Lambs pulled, 35 cents.

NEW ADVERTISEMENTS.

B. M. Rhodes & Co.—Orchilla Guano.
T. W. Levering & Son—Seed Wheat, Clover Seed, &c.
B. T. Hynson & Son—Paper Hangings.
Whann's Rave Bone Superphosphate.
John C. Durborow & Co.—Grain Drill. Coe's Original Superphosphate. Geo. Dugdale & Co.—Wheat Fertilizers. Wm. Harris—Guns and Pistols. Charlotte Hall School. Win. Harris-Guns and Pistols.

Charlotte Hall School Ram Lambs.

Kent County Agricultural Association.

F. M. Mattice-Drain, Tile and Brick Machine.

C. W. Slagle & Co.—Fultz Seed Wheat.

J. M. Thorburn & Co.—Imported Dutch Bulbs.

James Vick—Bulbs for Fail Planting.

John Saul—New Early Peaches. &c.

Elisuanger & Barry—Plants and Bulbous Roots.

Smith & Powell—Pear and Apple Trees.

W. D. Brackenridge—Rosebank Nurseries.

Henry C. Jenkins—Pure Berkshire Pigs.

J. W. Wilson & Son—Lumber Dealers.

John Cook—Strawberry Plants. &c.

Hove Sewing Machines—38 North Charles Street.

Jesse & Jas. W. Tyson—Sale of Jersey Cattle.

Wilson Sewing Machine.

W. Hallscok & Co.—Whitelock's Vegetator.

Griffth, Baker & Bryan—Keller Grain Drill.

Fairbanks & Co.—Hay, Stock and Cattle Scales.

A GRAND VICTORY OVER EVERY COM-PETITOR IN THE WORLD.

The following Cable Dispatch from Vienna will convey the glad intelligence to the world that the "World Renowned Wilson Sewing Machine" has not only taken all of the highest Awards at Fairs and Expositions in the United States, but that it has overwhelmingly defeated every Sewing Machine manufactured in the World, and carried off the first Grand Prize at the Vienna Exposition:

VIENNA, Austria, Aug. 15, 1873. To W. G. Wilson, President Wilson Sewing Machine Company, Cleveland, Ohio:

"The Wilson Shuttle Sewing Machine was awarded the Grand Prize at the Vienna Exposition for being the best Sewing Machine." RAYNOB.

AUCTION SALE Choice JERSEY Cattle.

The subscribers will offer at Public Sale at KEAR-NEY'S STABLE, corner of St. Paul and Centre streets, Baltimore, on WEDNESDAY MORNING, Sept. 17th, a ice collection of JERSEY (HERD-BOOK) COWS and

choice collection of JERSEY (HERD-BOOK) LUWS and HEIFER CALVES, from 6 months up—as desirable a lot as has been offered in this city. Full particulars will be given by Catalogue. JESSE & JAS. W. TYSON. P. H. SULLIVAN & SON, Auctioneers, sep-1t



AND MANUPACTURERS OF Sashes, Doors, Blinds, Mouldings, Brackets, Handrails, Newels, Balusters, and other Building Materials-on hand at reduced prices.

333 SOUTH EUTAW STREET,

Corner Cross st.

[sep ly]

BALTIMORE, MD.

1873.

ORCHILLA GUANO,

A TRUE BIRD GUANO,

Rich in Phosphates and Alkaline Salts

From Orchilla Island, in the Caribbean Sea, belonging to Venezuela, Lat. 11° 50' N., Lon 66° 14' W.

The almost universal desire by farmers "for a lower-priced fertilizer that would answer the purpose," seems to be met by the Orchilla Guano, which, owing to the cheap freights from the Island, justifies the importers in selling this truly standard manure at the reasonable price of \$30 per ton, packed in bags.

The Company desires the vigorous working of the deposit, which they consider will be promoted by placing the product within the reach of consumers generally, also enabling a liberal use, which will remedy the defect in our farming, which has been cultivating too much land with scanty application of fertilizers. The excuse that "too high cost for Phosphates did not permit their free use."

Then, again, the growing purpose by farmers to make their own "Phosphate," and the handling of Sulphuric Acid being a dangerous operation, can be attained by combining Orchilla Guano, which is soluble of itself, with a proportion of Guanape Guano, thus simplifying the process and avoiding danger; although abundant experience the past five years demonstrates Orchilla requires no admixture, besides unequalled as a grass grower, consequently a permanent improver of the land.

The Orchilla possesses the properties of Bone-Dust, besides being a natural fertilizer and sold much cheaper.

BALTIMORE, May 26th, 1873.

Result of Analysis of a sample of ORCHILLA GUANO, averaged by myself from cargoes Andes,

Speedwell and Charlotte Jamison, stored at Corner's Wharf:

| Moisture determined at 100° C | | 10.146 |
|-------------------------------|------|--------|
| Organic Comb. Matter | | 11.692 |
| Carbonic Acid | | |
| Phosphoric Acid | | |
| Lime | | |
| Magnesia | | 6.012 |
| Alkaline Salts, Sand and Loss | | 5.328 |

The Phosphoric Acid present is equal to 50.737 of Bone Phosphate of Lime, which, in the kiln-dry state of the Guano, will be increased to 55.348.

This Guano, which is truly an organic deposit, deserves well the attention of the farmer, not only on account of the high grade of its Phospates of Lime and Alkaline Salts, but more particularly for the physical condition and texture in which this Guano is presented.

(over)

G. A. LIEBIG, PH. D.

MARYLAND INSTITUTE. CHEMICAL DEPARTMENT.

BALTIMORE, July 8th, 1873.

Description of Samples of ORCHILLA GUANO drawn by myself, June 30th, 1873, from two storehouses on Corner's Wharf, Baltimore, Md. The lots in the storehouses are said

to be the cargoes of the Andes, Speedwell and Charlotte Jamison. The lots are uniformly fine and dry. The samples were taken

from about thirty different places of the top,

| metation and obtaine of the wis. | |
|---|----|
| Moisture at 100° C 7.200 | |
| Organic Matter, yielding 3-10 per cent. Ammonia | |
| Carbonate of Lime | |
| Bone Phosphate of Lime34.104 | |
| Phosphate of Magnesia | |
| Sulphate of Potash | |
| Chloride of Sodium | |
| Silica and Alumina | |
| 99.29 | 21 |

The 24.094 per cent. Phosphoric Acid is equivalent to 52.600 per cent. of Bone Phosphate of Lime. Rendered kiln-dried it would be equivalent to 56.681 per cent. of Bone Phosphate of Lime.

The Sulphate of Potash and the Chloride of Sodium (4.277 per cent.) are soluble in water. There is only a mere trace of Iron present.

The Orchilla, which seems to be an organic deposit, can be recommended to the farmer for use in its crude state, more especially for cereals, since one of its constituents, the Phosphate of Magnesia, is found in the grain of the cereals.

The samples lately drawn of the Orchilla from the storehouses in which it was being put into bags, and after a careful and complete analysis, as well as a thorough examination of the mechanical condition, as well as from the testimony of several who have used it in its crude state, and have expressed to me their entire satisfaction, I feel perfectly justified in recommending the Orchilla.

I would state here, that a sample was sent to me some time ago which was said to represent a cargo of Orchilla, and which I found to be an inferior article. The difference between the samples drawn by myself and the sample sent to me was so great that it might be inferred an inferior article was, by accident or design, intended to represent the Orchilla.

Very truly yours,

WM. P. TONRY.

Prof. Ana'l and App. Chemistry, Maryland Institute.

_____0____

Analysis of a Sample of ORCHILLA GUANO for Messrs. B. M. Rhodes & Co., of Baltimore, Md., July 17th, 1873:

| Hygroscopic Moisture lost at 100° C 9. | 23 | |
|---|-----|------|
| Water driven off at higher temperature, and a little organic matter* 8. | 72 | |
| Phosphoric Acid. (Phosphorous Pentoxide)† | 31 | |
| Sulphuric Acid, (Sulphur Trioxide) 2. | 47 | |
| Carbonic Acid, (Carbon Dioxide)10. | 54 | |
| Fluorinetra | ce | |
| Lime | 23 | |
| Magnesia 8. | 27 | |
| Alumina. | | |
| Seagui-Oxide Iron (Ferric Oxide) | 14 | |
| Sesqui-Oxide Iron, (Ferric Oxide) | 19 | |
| Chloride Potassium | 17 | |
| Insoluble (Siliceous) Residue 1. | | |
| | _ * | 90 1 |

*Containing a trace of Nitrogen.
†Equivalent (all the Magnesia being calculated as Phosphate) to 40.26 per cent. tri-basic or Bone Phosphate Lime, and 7.14 per cent. tri-basic Phosphate Magnesia—or (all Phosphoric Acid calculated as in combination with Lime) to 45.71 per cent. Bone Phosphate.

ADVERTISING SHEET.

University of Virginia, Charlottesville, July 17th, 1873.

Messrs. B. M. RHODES & Co., 82 South Street, Baltimore:

Gentlemen-Enclosed herewith you will find the result of analysis of the sample of Orchilla

Guano lately sent me by you.

This material decidedly recommends itself to the attention of farmers by its large proportion of Phosphoric Acid, (if kiln-dried at only the temperature of boiling water the sample analyzed by me will represent 53.67 per cent. of Bone Phosphate of Lime,) and by its physical condition, most of it being already in powder, and the few lumps easily crushed by a shovel or between the fingers, so that no grinding is needed. The Phosphoric Acid is in a form to be much more easily taken up by growing plants than that of the harder and more compact Mineral Phosphates. Farmers can themselves very easily add Peruvian Guano, Cotton Seed, Mill Refuse or other material affording Nitrogen when it is desired to combine the effort of Ammoniacal with that of Phosphatic Manure.

I am, gentlemen, respectfully yours,

J. W. MALLET.

ANALOGY BETWEEN ORCHILLA GUANO AND WHEAT.

The Analysis of the Ash of Wheat and Straw shows:

Phosphate of Magnesia. 12.03
Phosphate of Lime 49.31

Orchilla Guano contains:

Phosphate of Magnesia......11.57 Phosphate of Lime, over......55.00

DIRECTIONS FOR USE.

This Guano, being sold at a very moderate price, enables farmers to use liberally-say 300 to 500 pounds per acre-high manuring on fewer acres being the most desirable mode of culture under our changed system of labor.

To such as prefer Peruvian Guano, we suggest combining three-fourths Orchilla. Using mixtures of Peruvian and Phosphatic Guanos on many soils has been successfully practiced

by many farmers in various parts of the State.

The fact is that the finer part of Peruvian Guano, which is by far the largest portion, cannot be improved by grinding, and the same is true of Orchilla Guano. All the farmer has to

not be improved by grinding, and the same is true of Orchilla Guano. All the farmer has to attend to when using Peruvian Guano is, therefore, the selection of the lumps by sifting, and their subsequent grinding. As soon as this is accomplished, both Guanos may be advantage-ously applied, by sowing them separately in the proportion of three-fourths Orchilla to one-fourth Peruvian, according to the wants of the particular soil and crops.

It is evident that, by uniformly sowing first 300 pounds Orchilla Guano over the area of an acre of land, and subsequently, by a hand immediately following, with 50 to 100 pounds Peruvian Guano, (or applied in the drill with the seed.) a uniformity of mixture of both Guanos will be procured in the very soil that cannot be effected by any other mechanical means—the uniform mixing of two bulky substances is to every one known as the most tedious of practical operations. ous of practical operations.

PRICE PER TON OF 2,000 POUNDS, \$30 CASH.

B. M. Rhodes & Co.

AGENTS FOR THE SALE OF

ORCHILLA GUANO

OFFICE-82 South Street,

sep-1t

BALTIMORE, MD.

Aurseries & Seedsmen.

IMPORTED DUTCH BULBS. HYACINTHS, TULIPS, LILIES, NARCISSUS, CROCUS, &c.

The largest and most complete collection of first class
Bulbs ever imported. CATALOGUES for the Autumn
just published. J. M. THORBURN & CO.
SEED WARRHOUSE, just published.

sep 2t

No. 15 John Street, New York.



The FOURTH NUMBER of VICK'S FLORAL GUIDE for 1873, containing Descriptions of Hyacinths, Tulips, Lilies and other Hardy Bulbs for Fall Planting and Winter Flowering in the House, is now published. 25 cents pays for the GUIDE a year-200 pages, 500 Illustrations. Fall Number 5 cents. Address

JAMES VICK, Rochester, N. Y.

SAUL'S NURSE

Washington City, D. C.

The undersigned offers a large and fine stock of those superb

New Early Peaches,

Early Beatrice, Early Louisa and Early Rivers -fully two weeks earlier than Hale's.

FRUIT TREES .- An extensive stock of well grown Trees-Pear, Apple, Cherry, Apricot, Plum, &c.

DUTCH BULBOUS ROOTS.

My importations are expected early in Séptember, direct from the most eminent growers in Holland, who have supplied me the past 21 years. They can be relied on as of the very finest quality.

PLANT DEPARTMENT.

New and rare

GREEN-HOUSE PLANTS.

A large collection, suitable for Florists, amateurs, &c., for winter blooming in Parlor, Green-house, &c.

ROSES .- A large stock of the newest and rarest varieties. All at the lowest rates.

Catalogues mailed to applicants.

sep-2t JOHN SAUL, Washington, D. C.

REES. PLANTS and BULBOUS ROOTS

For AUTUMN of 1873. Ellwanger & Barry offer to Planters and Dealers the largest and most complete stock in the country of

the largest and most complete stock in the country of Standard and Dwarf Fruit Trees, Grape Vines, Small Fruits, Ornamental Trees, Shrubs, Evergreens, New & Rare Fruit & Ornamental Trees, New & Rare Fruit & Ornamental Trees, New & Rare Green & Hot House Plants, Bulbous Flowering Roots.

Small parcel forwarded by mail when desired. Prompt attention to all inquiries.

Descriptive and Illustrated Priced Catalogues sent prepaid on receipt of stamps, as follows:

No. 1—Fruits, 10c. No. 3—Ornamental Trees, 10c. No. 3—Greenhouse, 10c. No. 4—Wholessle, (Just Published), Froe. No. 5—Bulbs, Froe: Address Establ'd 1840. ELLWANGER & BARRY

sep-2t Mount Hope Nurseries, ROCHESTER, N.Y.

Trees! Trees! Trees!

FALL-1873.

A Very Large Supply of

Pear and Apple Trees

of choicest quality. Also,

Norway Spruce, A very fine stock, and a general assortment of Nur-

sery Products, at the

SYRACUSE NURSERIES.

Catalogues sent on application. Correspondence solicited.

SMITH & POWELL.

SYRACUSE, N. Y., August 1, 1873.

TREES AND PLANTS.

Govanstown, Balto. co., Md.

We invite the attention of Planters and Amateur Cultivators, to our complete stock of the following :

PEARS, Standard and Dwarf.

APPLES, Standard and Dwarf. CHERRIES, Standard and Dwarf.

PEACHES, PLUMS, and GRAPE VINES, together with other SMALL FRUITS of popular kinds.

ORNAMENTAL TREES, EVERGREENS and SHRUBS. with ROSES in great variety. A large stock of choice GERANIUMS, VERBENAS, and other bedding out plants.

75 to 100,000 two and three year old OSAGE ORANGE HEDGE PLANTS.

ORDERS by mail promptly attended to. Catalogues forwarded on application.

W. D. BRACKENRIDGE.

Fultz Seed-Wheat.

The Celebrated Fultz Wheat-Red and Smooth headyielding from 35 to 45 bushels to acre. Grown in Pennsylvania. For sale by C. W. SLAGLE & CO.,

sep-1t 118 North Street

Monarch of the West Strawberry Plants at 86 per 100.

Also the following varieties at \$1 per 100; \$6 per 1000: Charles Downing, Boyden, No. 30, Nicanor, Russel's Prolific, Kentucky Late, Wilson's Albany, Agriculturist.

Also, RASPBERRIES, BLACKBERRIES, CURRANTS, GRAPE VINES, and Conover's ASPARAGUS, at the lowest rates.

Send for Price List.

JOHN COOK, Carroll P. O., sep-2t Baltimore Co., Md.

CAREFULLY-BRED JERSEY and

> AYRSHIRE COWS, HEIFER and

For sale by

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BULL CALVES,

L. E. RICE,

Princeton, New Jersey.

William Harris,

GUNS AND PISTOLS,
With large assortment of
SPORTSMEN'S GOODS.
Guns neatly Stocked and
Repaired at

Repaired at

No. 116 PRATT STREET,
One door from South st., [sep 6t] BALTIMORE, MD,

CHARLOTTE HALL SCHOOL,

ST. MARY'S CO., MARYLAND.

This ancient seat of learning, situated in a region exclusively agricultural, is peculiarly adapted to the education of the sons of farmers. Its proverbial healthulness, remoteness from the distractions and temptations of cities, and wholesome discipline, offer the best opportunity for successful study. By a liberal State donation the expenses at this school are far less than at any similar institution in the coun-

By a literal State donation the expenses at this school are far less than at any similar institution in the country—board, tuition and washing being only \$89 per session of ave months, payable in advance.

THE NEXT SESSION WILL BEGIN SEPTEMBER 15.
For Circular, &c., address the Principal,
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CHARLOTTE HALL P. O., MD.

W. W. COBEY,

Cross Roads P. O., Charles Co., Md., Offers for Sale a few Choice

Cotswold Ram Lambs,

Great Wheat Fertilizer

IS PACKED IN GOOD BAGS CONTAINING 200 LBS. EACH,

And is prepared in a fine dry powder, so as to drill readily. DUGDALE'S WHEAT FER-TILIZER is prepared to meet the growing need of a special high-grade article, thoroughly adapted to the culture of the Wheat crop, and combining elements necessary for that crop in proportions not found in the ordinary Super-Phosphates; and we claim that it will be found to be by actual experiment, even though selling at a much higher price than many articles in the market, the cheapest and most valuable special Wheat Fertilizer offered to the public. ALSO,

"Excellenza" Soluble Phosphate,

It is so well-known and so universally popular, that we only deem it necessary to say that its high standard will be rigidly maintained, and that its mechanical condition is greatly improved.

GEO. DUGDALE & CO.,

No. 44 Post-office Avenue,
BALTIMORE, MD.

COE'S

ORIGINAL

SUPER-PHOSPHATE!

CECILTON, MD., August 10th, 1873.

Mr. Andrew Coe, Baltimore, Md.

Dear Sir—I have yours asking me to inform you of the effect of your Super-Phosphate on my Wheat. In reply: I have used your Super-Phosphate on Wheat, and can say it has given me every satisfaction. Having tried it alongside where Bone and Barn-yard manure were used, I not only was well paid on the Wheat, but have noticed the good effect upon the Grass and Corn crops that followed, and believe that it did more good than either the Bone or Barn-yard manure, having made a fine crop of Grass, which acts as a permanent improver of the land.

I will probably need about ten tons for my own use. I will not use any other kind so long as you keep up the present standard in quality, and the relative value in price compared with other fertilizers, unless I shall find another which, by actual comparison, will pay better. I intend the coming season to make careful comparison between your Super-Phosphate and other compounds in the market on Wheat and Corn.

Very respectfully,

WILLIAM WARD.

Office of Coe's Original Super-Phosphate,

No. 172 W. Pratt Street,

BALTIMORE, MD.

TIMOTHY SEED, SEED-WHEAT, CLOVER, &c.

T. W. LEVERING & SONS.

Commission Merchants and Dealers in field Seeds,

No. 55 Commerce Street, Baltimore, Md.,

Keep on hand the best varieties of Seed-Wheat; also, Clover, Timothy and Orchard Grass Seeds. &c.

T. W. LEVERING & SONS.

B. T. HYNSON & SONS,

Paper Hangings and Window Shades, WINDOW AWNINGS. MOSQUITO AND FLY-NETS.

Wall Papers and Window Shades of all grades and styles. Workmen sent to all parts of the country. Just received a choice assortment of different styles. Venitian Blinds made and repaired.

> B. T HYNSON & SONS. No. 54 N. Howard Street, Baltimore, Md.

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RAWBONE

200 The.

ALTON, WHANN& C

WILMINGTON, DE DEPOTS:

EST FRONT ST.WIL RLES STREET, BALL

REAX ST. ALEXI

WHEAT SEEDING, FALL 1873.

Whann's Raw Bone Super Phosphate

This Super Phosphate is the Great Fertilizer for

WHEAT, RYE, AND OTHER FALL CROPS.

Try it! You can buy a Single Bag to Test it!

WALTON, WHANN & CO., Manufacturers, Wilmington, Del.

57 S. CALVERT STREET, BALTIMORE, MD.

28 South Wharves, Philadelphia, Pa.

(203 West Front st., Wilmington, Delaware.

COTSWOLD or COMBING WOOL HEEP

"A FINE SAMPLE OF COTSWOLD WOOL,—Mr. C. J. B. Mitchell, of Queenstown, Maryland, has sent us a lock of wool from his Cotswold Buck, which is one of the finest samples of the sort we remember to have ever seen. Mr. Mitchell writes us that the fleece from which this lock was taken weighed 18% ibs, and some of the locks measured 17 inches in length. The one before us is very nearly that length, and is a remarkably beautiful specimen of the wool for the Cotswolds. Who can beat it?"—Maryland Farmer.

The premium for the best pen of Long Wool Eacs was awarded to C. J. B. Mitchell at the Virginia State Fair held at Richmond is 180.

PRICES FOR 1873.

Rams, I to 3 years old, from \$40 to \$76. Ewes, I to 4 years old, from \$20 to \$50. Parties ordering more than one sheep will be allowed a deduction on above prices. A charge of one dollar each will be made for all sheep boxed for delivery.

C. J. B. MITCHELL,

july-8t

QUEENSTOWN, Queen Anne's Co., Md.

JOHN C. DURBOROW,

GENERAL AGENT FOR

THE KIRBY MOWERS and REAPERS,

AND DEALER IN

AGRICULTURAL IMPLEMENTS, Cucumber Pumps, Seeds, Fertilizers, &c.

COE'S Unrivalled SUPER-PHOSPHATE, \$50 per Ton.



N. B. The BALTIMORE SELF-RAKE on the KIRBY REAPER and MOWER received the Diploma at Maryland State Fair, the Diploma at Frederick Co. Fair, Oct., 1872; the Kirby two-wheel Mower received First Premium at Carroll Co. and Frederick Co. Fairs, and First Premium at Virginia State Fair held at Richmond Nov., 1872. Simple, strong and durable. Positively no side draft and no veight on horses' necks. Extras and Repairs constantly on hand.

Send for circular and price list.

JOHN C. DURBOROW.

55 LIGHT STREET.

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NEAR PRATT, BALTIMORE, MD.

BICKFORD & HUFFMAN'S

SUPERIOR

GRAIN

THE ONLY

GRAIN DRILL



DRILL,

PERFECT

IN THE WORLD

HAVING A SUCCESSFUL FERTILIZER ATTACHMENT.

Certain in Distribution, accurate in measurement of Seed used, and possessing more facilities and conveniences for adjustment to quantity, and practical operations in the field than any or all other Drills manufactured. ALSO, AGENT FOR

DIAMOND STATE SEPARATOR,

WITH 4, 6 OR 8 HORSE-POWER.

Sole Agent for BALL'S CELEBRATED STEEL PLOUGHS. These Ploughs are of very Light Draft, and easily convertible into cast or combination by the farmer. Send for a Circular. Also, PERUVIAN GUANO, and BONES of all grades.

JOHN C. DURBOROW.

No. 55 Light Street, near Pratt, Baltimore, Md.

sep-3t

SUPPLEMENT

TO

THE AMERICAN FARMER

AND

RURAL REGISTER.

American Farmer Extra Sheet.

After the main body of the issue of the Farmer was put to press, the receipt of a number of new advertisements necessitated our adding an extra sheet to our usual number.

Good Yield.—Mr. Jas. H. Rieman raised on his farm in Baltimore Co., Md., on a field of 15 acres, to which barn-yard manure alone was applied, 479 bushels of red Mediterranean wheat, or within a fraction of 32 bushels to the acre.

Woodlawn (VA.) Agricultural Society.—At the annual meeting held on the 2d ult., the officers of the past year were re-elected: President, Chalkley Gillingham; Secretary, N. W. Pierson; Treasurer, R. F. Roberts.—The President delivered an excellent address on the occasion, Mr. Otis Mason also delivered an interesting address.

GOOD FODDER FOR WINTER.-The question of preserving green fodder in trenches for winter consumption is assuming serious proportions in this country. Up to the present, green food served only for the support of cattle pending the summer and early autumn. It is quite clear that maize, beet leaves, rape in flower, rye grass, in fact all forage plants with comparatively thick stems, can be con-served very well in trenches, and become thus a most useful adjunct to winter feeding; that they most beneficially prepare the soil for grain crops, allow the number of stock to be increased, and consequently a greater supply of farm-yard manure to be produced. Then such green crops are less expensive to cultivate than roots, and permit of more land to be devoted to other produce. Hitherto it was necessary to consume green fodder at once; now it can be magazined in a fresh state, without any preliminary drying, and in a manner that dispenses with out-offices and kindred harvesting. Besides, in the case of column, such plants may be cultivated as an intercalary or stolen crop. A trench, in a dry and unexposed situation, one hundred and ten yards long, two and one-half deep, and two wide, will suffice for three hundred tons of green maize, which must be covered with a coating one yard thick of earth, roof-form,

taking care to exclude all connection with the open air. Many persons mix hay, chopped straw, colza huaks, &c., between the layers of green maize or rye. The propriety of allowing the cut fodder twenty-four hours or so to dry, before being buried, is still a matter for experiment.— Ez.

LIQUID EXCREMENT.—How strangely we overlook the value of the liquid excrement of our animals! A cow, under ordinary feeding, furnishes in a year 20,000 pounds of solid excrement and about 8000 pounds of liquid. The comparative money value of the two is but slightly in favor of the solid. This state-ment has been verified as truth over and over again. The urine of herbivorous animals holds nearly all the secretions of the body which are capable of producing the rich nitrogenous compounds so essential as forcing or leaf-forming agents in the growth of plants. The solid holds the phosphoric acid, the lime and magnesia, which go to the seeds principally, but the liquid, holding nitrogen, potash and soda, is needed in forming the stalk and leaves. The two forms of plant nutriment should never be separated or allowed to be wasted by neglect. The farmer who saves all the urine of his animals, doubles his manurial re-sources every year. Good seasoned peat is of immense service to farmers, when used as an absorbent, and the stalls for animals should be so constructed as to admit of a wide passage in the rear with generous passage room for peat, to be used daily with the excrement. -Boston Journal of Chemistry.

GROWTH OF OLIVES IN THE SOUTH.—In the U. S. Agr. Report for 1871, (page 154,) is a statement that "Mr. Jas. Poslett, of Brunswick, Glynn Co., Geo., has 250 olive trees, 30 feet apart, planted in 1825, all in bearing, and average 5 gallons oil each season, with but little cultivation, and with rude process of manufacture. With proper cultivation and machinery the product might be made of a quality unsurpassed in the world. Last year the oil-produced amounted to 1250 gallons, worth eight dollars per gallon. No injuries from insects or diseases reported." Olive oil sells for \$8 to \$10 per gallon.

Pure Essex Pigs,

Bred from stock which I have recently imported imported directly from England and Canada; also,

Light Brahma, White Leghorn and Game Dominique Fowls,

Each variety bred from the purest stock in this country and warranted to be first class in every respect. All for sale on reasonable terms for Breeding or Exhibition purposes.

T. J. Wooldridge, M. D.,

sep 6t

French Hay P. O., via Glen Allen, Va.

A GRAND MEDAL FOR GLEVELAND

The Wilson Sewing Machine Takes the Grand Prize at Vienna.

THREE separate despatches from Vienna combine to dispel all doubt as to what sewing machine has won the first honors of the great Exposition. The first was a special to the New York press on Monday, and was as fol-

VIENNA, August 15, 1875.

The Wilson shuttle sewing machine was awarded the grand prize at the Vienna Exposition for being the best sewing machine.

The second was the regular Associated Press report, compiled from a long special to the New York Herald, in which the "Wilson Sewing Machine of Cleveland, Ohio," was named as among the exhibitors which received "medals for merit," the highest class of premiums awarded at the Exposition. All other sewing machines will receive simply an award for pro-

The third was a private cable telegram received yesterday from Vienna by Mr. Wilson himself, which was as follows:

VIENNA, August 19. You have received five medals-two for merit and three co-operative.

The meaning of this is that the Wilson machine has received the grand medal as the best sewing machine, and a second medal as the machine best manufactured—that is, embodying the best mechanical workmanship. Besides these, Mr. George W. Baker, Assistant Superintendent of the Wilson Sewing Machine Company, receives a special medal for excellence of workmanship on the machine; Mr. Williams of this city receives a medal for best sewing on leather, done by the Wilson; and Miss Brock and Miss De Lussey receive still another medal for best samples of family sewing and embroidery, done on the Wilson machine. This sweeps the entire board. Not only has the Wilson sewing machine been pronounced the most capable and efficient sewing machine in the world, but its work, on both dry goods and leather, is pronounced superior to that of all other machines. This verdict at a World's Fair, where all the leading sewing machines of both continents have competed before a thoroughly competent committee for more than three months, is the most complete triumph ever won by a sewing machine. We congratulate Mr. Wilson, we

congratulate Cleveland on this admirable result. The people of the United States can henceforth be assured that in buying the Wilson machine for \$20 less than any other firstclass sewing machine is offered, they are purchasing the best sewing machine ever offered to the public. It is the people's own machine, made to do the people's work, and offered at a price which every one can afford to pay. It is the people's machine which has won this triumph; the judgment of the Vienna Committee only confirms the verdict that the masses had long ago reached by actual experience .- Cleveland Daily Leader, August 20.

[An Advertisement.]

Bogus Vienna Premiums.-As we have taken ALL of the GRAND MEDALS awarded to sewing machines and work done on sewing machines at the Vienna Exposition, which fact has been announced in the newspapers by Associated Press telegrams (over which we have no control), and consequently is unquestionable evidence, we deem it due to ourselves to caution the public against the BOGUS CLAIMS and paid advertisements of our vanquished competitors.

WILSON SEWING MACHINE COMPANY. Cleveland, O., August 18, 1873.

KENT COUNTY AGRICULTURAL ASSOCIATION

Will held its Third Annual Fair, at WORTON STA-

TUBSDAY, Sept. 30, and continuing 3 days.

Very convenient to Baltimore and all parts of the State. Directly on Kent County Railroad, and near several Landings. Two and a half miles from Chester-town by Eath.

TRIALS OF SPEED EACH DAY GOOD PREMIUMS OFFERED.

For Premium-Lists and other information, address (inclosing Stamp) the Secretary,

E. A. VANNORT, M. D., Hanceville P. O., Kent County, Md.

FOR THE BEST

DRAIN, TILE AND BRICK MACHINE COMBINED.

Address, F. M. MATTICE, Cleveland, O. Will also furnish PATTERNS to these wishing to manufacture Machines on a royalty.

PURE BERKSHIRE PIGS.

From eight to ten weeks old, very fine, boxed and delivered at Express office at \$10 a piece, or \$20 a pair.

HENRY C. JENRINS, sep-1t Pylesville, Harford Co., Md.

Whitelock's Vegetator!

CONTAINING IN A SOLUBLE CONDITION,

Every Element Necessary to the Growth of the Plant and the Formation of the Grain.

ALWAYS UNIFORM IN QUALITY-ALWAYS IN A CONDITION FOR DRILLING.

All we desire is a trial of the "Vegetator" by the side of any other manure which can be produced.

W. WHITELOCK & CO.,

sep-tf

44 South Street, Baltimore.

JOHN D. HAMMOND.

HENRY A. ANTHONY.

JOHN D. HAMMOND & CO.

Saddle, Harness, Trunk and Collar Manufacturers.

WHOLESALE AND RETAIL.

361 W. Baltimore Street, opposite "Eutaw House," BALTIMORE. sep-ly





KELLER PATENT GRAIN, SEED AND FERTILIZER DRILL.

We call the especial attention of all desirous of purchasing a drill this season to the above, and assure them that it is as its name implies—"The Bast."

We claim for it Superiority—lest. In point of operation, being perfectly accurate in the distribution of Grain. Seed and Fertiliners. 2d. In principle of Construction. Sdx-In Material. 4th. In Finish. 5th. In Simplicity and Ease of Management. 6th. In Durability.

It has the "Keller Patent Sowing Arrangement," which is the only perfect force-feed made, and sows any quantity of Seed desired to the acre with accuracy.

It has the "Keller Patent Sowing Arrangement," which is the only perfect force-feed made, and sows any quantity of Seed desired to the acre with accuracy.

It is spring flose, and drills among stumps, stones, roots, and rough and uneven ground without interruption in its working arrangement, and with equal regularity under-all sireumstances.

Is regulated to sow either shallow or deep, and changeable by Lever, either straight or sig-sag, while in motion. The Patent a kie renders is the most atseady and easiest running brill, and it is at the same time self-greasing.

The Guano Attachment is perfect in every respect, with Reverse Feeders and Stirrers, works with perfect accurateness and guaranteed not to choke, adhere or pack. Grass Seed Attachment is placed behind the drill and hoes, hence ne interference with the even distribution of the seed.

We solicit as essaination of this brill by all who intead buying.

Have also the Empire Thresher and Cleaner, with most approved Sweep Power, for 6, 8 and 10 horses. Steam Threshers and Portable Engines, Double-geared Railway Powers with Patent Governor, Combined Peerless Thresher and Cleaner. Also, Highok Patent Portable Clear Mit and Freeces, Hutchinson's Wine Mill and Press, Agricultural Machinery and Implements generally, Field and Garden Seeds, Fertilitiers, &c.

GRIFFITH, BAKER & BRYAN,

41 & 43 N. Paca Street, Baltimore, Md.

STANDARD SCALES.

FAIRBANKS'



HAY, STOCK & CATTLE SCALES

CAUTION!

The well-earned reputation of our SCALES has induced the makers of imperfect Balances to offer them as "Fairbanks' Scales," and purchasers have thereby, in many instances, been subject to fraud and imposition. If such makers were capable of constructing good Scales they would have no occasion to borrow our name.

BUY ONLY THE CENUINE FAIRBANKS' STANDARD SCALES

STOCK SCALES, COAL SCALES, HAY SCALES, DAIRY SCALES, PLATFORM SCALES, COUNTER SCALES, &c.

FOR SALE ALSO,

ALARM CASH DRAWER

Till-Tapping Prevented!

EVERY DRAWER WARRANTED!

EVERY MERCHANT SHOULD USE THEM. IMPROVED
TILL LOCK & DRAWER
PAIRBANKS & CO.,
AGENTS,
252 Broadway, N. Y.

BALDWIN'S

Sold at all Fairbanks' Scale Warehouses.

FAIRBANKS & CO.,

No. 166 West Baltimore Street, Baltimore, Md.

FERTILIZERS. STRICTLY PURE GROUND BONE,

Muriate Potash, Sulphate Potash, German Potssh Salts, Nitrate Soda, Salt Cake, Nitre Cake, Sulphate Soda, Sulphate of Ammonia. &c.

OIL VITRIOL & CHEMICALS FOR MAKING SUPERPHOSPHATES AND FERTÍLIZERS.

jan-1y

R. J. BAKER & CO., Nos. 36 & 38 S. Charles st., Baltimore, Md.

ORCHILLA GUANO, AA,

Rich in Phosphates and Alkaline Salts,

From Orchilla Island in the Carribbean Sea, belonging to Venezuela, Lat. 11° 50' N., Lon. 66° 14' W.

Packed in Good Bags, 167 lbs. each, 12 to the Ton, \$30 per Ton, Cash.

B. M. RHODES & CO., Agents for the Sale of Orchilla Guano,
Office, 82 SOUTH ST., below Corn Exchange,

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BALTIMORE.

BURNS & SLOAN,

No. 132 LIGHT STREET WHARF,

BUILDING LUMBER, SHINGLES,
ASH, OAK and WALNUT.

LIME, BRICKS, SASH & MILL WORK.

HUGH SISSON, Steam Marble Works,

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MANTELS, MONUMENTS, and STATUARY, GRAVESTONES AND TABLE TOPS,

MARBLE COUNTERS, for Banks, Hotels and Druggists,

TILES FOR FLOORS, GARDEN STATUARY, constantly on hand, feb-ly AT THE LOWEST PRICES.

IMPORTANT TO FARMERS.

J. G. HEWES'

mmoniated Bone Super-Phosphate of Lime,

Manufactured and Sold by JOHN G. HEWES,

Office and Warehouse, 370 WEST PRATT ST., BALTIMORE, MD.

july-ly Also, PERUVIAN GUANO, and Bones of all grades.

IMPROVEMENT IN FERTILIZERS.

German Potash Salts.

Imported directly from the mines, high and low tests.

Orders of Manufacturers promptly executed in deliveries to suit. STOCK ON HAND FOR SALE VERY CHEAP.

Muriate of Potash, Kainit, &c.

TATE, MULLER & CO. Please call for circulars. BONE ASH, imported from South America, GROUND BONE and GUANO, for sale.

TATE. MULLER & CO. 52 S. Gau St., Bultimore, Md.

oct-1y

VASHINGTON LIFE INSURANCE CO.

OF NEW YORK.

CYRUS CURTISS PRESIDENT. Assets January 1, 1873. . \$3,426,203 27 Liabilities-Cash reserved for Policies.

\$2,913,102 00 Liabilities for claims due, 70,141 74 2,983,243 74

> SURPLUS .. \$442,959 53

PLAN OF BUSINESS. Premiums required in Cash.

Premiums required in Cash.
Dividends are non-forfeltable and are paid in Cash.
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The first question for a prudent man to ask, in determining the merits of an insurance Company, should be: is it trustworthy and responsible? The entire history of this Company has shown that its solidity is unquestioned; no imputation to the discredit of its management having ever been uttered.

DAN'L GRANT EMORY, Manager for Maryland and District of Columbia, 7-1y 324 ST. PAUL STREET, BALTMORE, MD.



No. 44 LIGHT STREET. Third door below Lombard st.,

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Improved Breeds of Cattle.

A number of Short-Horn, Jersey and Devon BULLS and HEIFERS for sale, at the

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\$5 to \$20 per day! Agents wanted! All classes of working people, of either sex. young or old, make more money at work for us in their spare moments, or all the time, than at anything else. Particulars free. Address G. Stinson, & Co., Portland, Maine.



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Established 1815, Importers, Manufacturers and Dealers

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NEER BEAND, by the piece or cut to order, and sont by express to any Station on Steamboat or SMUT MACHINES, BELTING and Mill Furnishing Goods generally. Railroad lines

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SUPER-PHOSPHATE OF LIME.

STANDARD GUARANTEED.

Reduced in price, and improved in quality by the addition of Potash. This article is already too well known to require any comments upon its Agricultural value. Thirteen years' experience has fully demonstrated to the agricultural community its lasting qualities on all crops, and the introduction of Potash gives it additional value. PRICE \$50 PER TON, 2000 LBS. Piscount to Bealers.

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SUPERIOR TO PERUVIAN GUANO Patented April 29, 1860. Manufactured by MORO PHILLIPS. PRICE \$50 PER TON, 2000 LBS. Discount to Dealers. For sale at Manufacturer's Depots:

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Drain and Sewer Pipe, Stove Lining, &c.

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DANA BICKFORD'S

THE CHAMPION FAMILY KNITTING MACHINE EARTH CLOSET.

Perfection in work and simplicity of construction have been attained in this Machine. It knits both circular and flat web with perfect selvage edge, making a perfect hand-stitch. It narrows and widens, knitting hetels and toes of stockings to perfection, with ribbed or plain stitch, and is a Crocheting as well as Knitting Machine. It makes all the intricate fancy

well as Knitting Machine. It makes all the intricate fancy stitches of the crocheting-needle better than hand-work. It is so simple that a child can operate it, and the rapidity of its work is truly wonderful—20,000 stitches per minute.

This Machine has carried the FIRST PRIZE at the Maryland State Fair, Maryland Institute, and Virginia State Fair, this Fail, and was the principal attraction at all of them. They are more valuable in the family than the Sewing Machine. Price, \$25 and \$35. Send for Circulars Agents wanted in every part of Maryland. Liberal terms. Address

J. A. HAMILTON, General Agent for Maryland,

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Having selected the new Cu mpion as being the very best and cheapest Earth Closet made, and accepted the Agency of it, I am now ready to furnish

the public with 5 styles.

No farmer or person living in villages can afford to be without the Earth Closet. Looked at in the light of convenience, comfort and economy, it is far beyond the water closet, having all the advantages of the city water closet and none of its disadvantages, being perfectly without odor.
Send for Price List and Circular to

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WHEAT SEEDING. 1873.

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AMMONIATED BONE SUPERPHOSPHATE

ANALYSIS.

| Ammonia, | - | - | - | - | | - | | | - | 2.83 |
|--------------|------|------|-----|-----|--|---|---|---|---|-------|
| Soluble Phos | phat | e of | Lin | ne, | | | - | | | 29.51 |
| Bone Phosph | ate | of L | ime | | | | | - | | 10.67 |

Composed of the most concentrated materials, it is

Richer in Ammonia and Soluble Phosphates

THAN ANY OTHER FERTILIZER SOLD,

Except our "Excelsior," and is made with same care and supervision-uniform quality guaranteed. Fine and dry, in excellent order for drilling. Packed in bags.

PRICE \$50 PER TON.

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Dairy and Stock Farm for Sale.

Situated in the corporate limits of the city of Athens, and containing three hundred acres of Valley and Bottom land, an abundant supply of the best water, good orchards of the different fuits. Timber enough to keep up the place, dwelling house and kitchen of brick, servants house of wood, storage room for every thing that can be made on the place, shelters and stalls for all kinds of stock and a market at the door for every thing that can be made to sell. It is the best place, and the best improved place in the county. Price seventy-five dollars per acre, cash. Possession given lat January 1874. For further particulars address dollars per acre, cash. Fostcaring 1874. For further particulars address JOHN S, 11NTON,

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VIRGINIA FARMS FOR SALE

I will sell upon very liberal and advantageous terms, three fine Farms, or any one of them, situated in Albemarle Co, Va. The three tracts contain respectively, 1038, 815, and 1009 acres, about 600 acres of each parcel 1038, 815, and 1009 acres, about 600 acres of each parcel being cleared; all lay well and are well watered; lawre large orchards; fine barns, and tobacco houses and other necessary buildings. One of the farms has on it a grist mill good for 700 to 800 bushels of toll corn, a saw mill (not in order) a large barn with threshing machine run by water power, and also an abundance of limestone. All these lands are situated near to Rail reads, Churches, Partoffees for and limite an expenientic of the house. Post-offices, &c.: and I invite an examination of them, or correspondence concerning them. Advess

GEO. C. GHIMER. Charlottesville, Albemarle Co., Va.

600 ACRES | 4 CATALOGUES 20 CENTS | 13 GREENEGUESS (1) Descriptive; (2) Whole-sie; (3) Bulb; (4) Fruit and Flower Plates. Immense stock and low prices. Address F. K. PHŒNIX, Bloomington Nursery, Illinois.

East Chester Nurseries.

FRUIT TREES. ORNAMENTAL TREES, BEDDING PLANTS, &c.

Grape Vines, Raspberries, Strawterries and other Small Fruits.

HARDY HERBACEOUS PLANTS.

SEND FOR PRICE LIST.

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J. W. COBURN & CO., East Chester, N. Y.

Waverly Nursery,

OAK GROVE P. O., WESTMORELAND CO., VA.
I have a very large assortment of GRAPE VINES,
PEA: HTREES and DWARF PEARS, of all the popular
and reliable varieties, which are offered at moderate
prices, packed and delivered free of charge, either at
wirt's whart or Longwood, on the Potemac, or at Leeds
town, on the Rappahannock. Send for Circular. JOHN RUST.

S. E. TURNER & CO., STATIONERS AND BLANK BOOK MANUFACTURERS.

Dealers in WRITING, PRINTING AND WRAPPING PAPERS, ENVELOPES, TWINES, BAGS, &c , &c. No. 3 S. Charles street.

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GREAT CARE

SAMUEL CHILD & CO.,

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Importers of CHINA, GLASS, TABLE CUTLERY,
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FURNITURE of every
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WATER COOLERS of our own make. ICE-CREAM FREEZERS of the most approved kinds. PATENT ICE PITCHERS, all qualities, and each warranted to be as represented.

New and Beautiful Patterns of

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WHISKEY, BRANDY AND
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SINGLY AND IN SETTS.

BOWLS, DISHES, CELERY STANDS, &c.

Our arrangements made in person with the leading manufacturers in Europe and this country, and having resident agents in France and England, give us every advantage in obtaining our supplies; manufacturing the common class of goods, such as

TIN AND JAPANNED WARE;

Buying entirely for cash; with a thorough knowledge of the business in all its details; purchasers may rest assured that we can and will supply their wants as favorably and upon as good terms as any house in New York or elsewhere.

We respectfully solicit a visit and an examination of goods and prices.

MONUMENT IRON WORKS.

DENMEAD & SON,

Corner North and Monument Sts., Baltimore, Md.

MANUFACTURERS OF STATIONARY AND PORTABLE

Steam Engines & Boilers

Of all Sizes.

DAVID'S PATENT PULVERIZING MILLS, for Guanos, Bones, Ores, Clays; also Flour Making.

SEND FOR CIRCULAR.

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BUCKEYE MOWER AND REAPER



Still leads the van. The past harvest the Buckeye was subjected to the most thorough tests in all conditions of grain, and notwithstanding the combined opposition of the whole Mower and Reaper fraternity, this old and faithful farmers' friend came out with flying colors, and thus added fresh proofs of its simplicity, utility and durability. We ask especial astention to our MILLER'S TABLE SELF-RAKE AND REVOLVING DROPPER, REAPER ATTACHMENTS, as being simple, durable and complete.

SWEEPSTAKES THRESHER, with CAREY or CLIMAX POWERS, (either mounted or down.)

The above Thresher and Cleaner and Horse Powers' are again offered to farmers and threshermen as possessing all the latest improvements, and we are prepared to convince the most skeptical that they will thresh and clean more grain in less time, better and with more ease to team, than any machines of their class in the market.

JOSHUA THOMAS, General Agent, 35 North street, Baltimore, Md.

Also, General Agent for the HAGERSTOWN WHEEL HORSE RAKE and KELLER DRILL and GULLETT COTTON GIN, and Dealer in Millstones, Bolting Cloths, Smut Machines, Belting, &c.

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D. KNOX, late of R. Sinclair & Co.

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DEALERS IN

AGRICULTURAL IMPLEMENTS & MACHINERY.

GROWERS AND IMPORTERS OF

Garden, Field and Flower SEEDS, Trees, Plants, Fertilizers, &c.

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CAMDEN STREET, NEAR SHARP, BALTIMORE, MD.



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GEORGE PAGE & CO.,

Machinists & Founders.

Portable and Stationary Steam Engines and Boilers, Patent Portable CIRCULAR SAW MILLS, Portable Grist Mills, Horse Powers, Leffel's Turbine Water Wheel, &c.

No. 5 N. SCHROEDER ST., (near W. Baltimore St.,)

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BALTIMORE, MD.

HARRINGTON & MILLS,

No. 140 BALTIMORE STREET, BALTIMORE, MD.

Manufacturers and Importers of

Fine Furniture, Looking Glasses, Gilt Frames, Curtains and Draperies.

We call particular notice to our large stock of CANE FURNITURE, embracing Chairs, Tables, Lounges, &c., &c.; being particularly suitable for country residences, and adapted, from its lightness and coolness, for Southern latitudes.

A large stock of Fine Furniture constantly on hand and made to order. je-ly.

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GOLD AND SILVER PLATE WORKS.

WM. HOLMES,

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Office and Factory, Nos. 50 and 52 Holliday street,
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Repairing and Replating done so as to look equal to new ware.

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Agricultura Implements and Machinery.

Large Stock of HORSE POWEBS, GEISER'S SEPARATORS, JOHNSON'S SELF-RAKE REAPER, MOWERS, DRILLS and RAKES.

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A. E. WARNER,

Manufacturer of

Silver Ware, Rich Jewelry,

Watches, Diamonds, Jewelry, Silver Ware.

Importer and Dealer in

Diamonds, Fine Watches, Silver Plated Ware, Table Cutlery, Fancy Articles, &c.

No. 135 W. BALTIMORE STREET, BALTIMORE, MD. FINE BRONZES AND OPERA GLASSES. SOLID SILVER WARE OF OUR OWN Je-ly MANUFACTURE. John M. Griffith. W M. Baker. F. C. Bryan.

GRIFFITH, BAKER & BRYAN,

41 and 43 N. PACA ST.,

BALTIMORE, Md.
Manufacturers of the



CELEBRATED BUCKEYE SELF-DISCHARG-ING STEEL TOOTH WHEEL

HORSE RAKE,

DEXTER WASHING MACHINE,

TINGLEY'S IMPROVED CHURN,

Right Hand CORN SHELLERS,

STRAW CUTTERS, PLOUGHS, HARROWS, CULTIVATORS, and

AGRICULTURAL IMPLEMENTS

and HARDWARE generally.

General Agents for the New BUCKEYE STATE Reaper and Mower and the celebrated "WORLD" Enclosed Gear REAPER AND MOWER, with Droppers or Self-Rake Attachments; Tornado Thresher and Cleaner and Carey Horse Power; Bullard's Improved Hay Tedder, Hagerstown Grain and Fertilizer Drill, Cider and Wine Mills and Presses, &c.

FIBLD and GARDEN SEEDS of every description; FRUIT and OBNAMENTAL TREES, GUANO, BONE, PLASTER and FERTILIZERS generally. All kinds of Machinery repaired at abort notice and on reasonable terms.

Call and examine or send for Descriptive Circulars and Price Lists.

GRIFFITH, BAKER & BRYAN,

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IMPORTED AND HOME-BRED.

Send for Circular. E. J. PECK, Linden, N. J USE AUTOMATIC BEE FEEDERS. mar-ly

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No. 166 North Gay street, Baltimore, DEALERS IN

MEXICAN AND PERUVIAN GUANO. Phosphates, &c., and

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Mexican Guano a Specialty,

Which they offer for sale at the lowest market rates. From the satisfaction expressed as to the quality of the Fertilizers furnished by us we feel confident that we can give the parchaser the full value of his money. Give us a call before purchasing.

Country Produce bought and sold.

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(from stock weighing 1800 lbs. a pair.) 10 weeks old \$10 a pair Also, Silver I uckwing and Black Breasted Red a pair Also, Silver l'uckwing and Black Breasted Red Games, from J. Y. Bicknell's stock. Apply to No. 4 Division street, Baltimore, Md.

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The only perfect "COMBINATION DRILL" in the World.

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The ONLY DRILL which throws out of gear by the automatic action of the Tube Lifter and covers all the seed distributed. Has the only really

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Reversible Steel Points on Tubes, with a Tube Shifter,

To enable the farmer to change the tubes from a straight line to zigzag and back at will, without raising the Tubes or stopping the team.

WARRANTED TO PERFECTLY PERFORM THE SEEDING OF ALL GRAINS FROM FLAX TO CORN.

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The Horse Power is one of the most important implements, and probably the most difficult to keep in order; too much care, therefore, cannot be used in selecting the very best.

I have long made the manufacture of Horse Powers a specialty, and can safely recommend my improved Iron Geared Powers to be all that I claim for them.

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For Threshing, Ginning and General Farm Use.

ranks first; being the result of many years' labor, "practice with science," and the expenditure of thousands of dollars in experimenting.

It is remarkable for its light draft, simplicity, great strength and durability. It is fitted

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Having improved Blanchard machinery for the manufacture of Plow Handles upon an extensive scale, I can supply first quality Handles, side bent to order for any pattern of plow.

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It is the policy of the Company to furnish the best fertilizer at the lowest price, and look to large sales and small profit for reasonable returns on Capital employed.

This Guano is sold by Agents of the Company in all the markets of the Middle, Southern and Gulf States.

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FERTILIZERS of every description sold in this market—and there is, probably, no other city in the Union which offers better facilities for this purpose. We will buy, and deliver from the Peruvian Agent's Warehouses, whenever the order is sufficiently large to warrant it,

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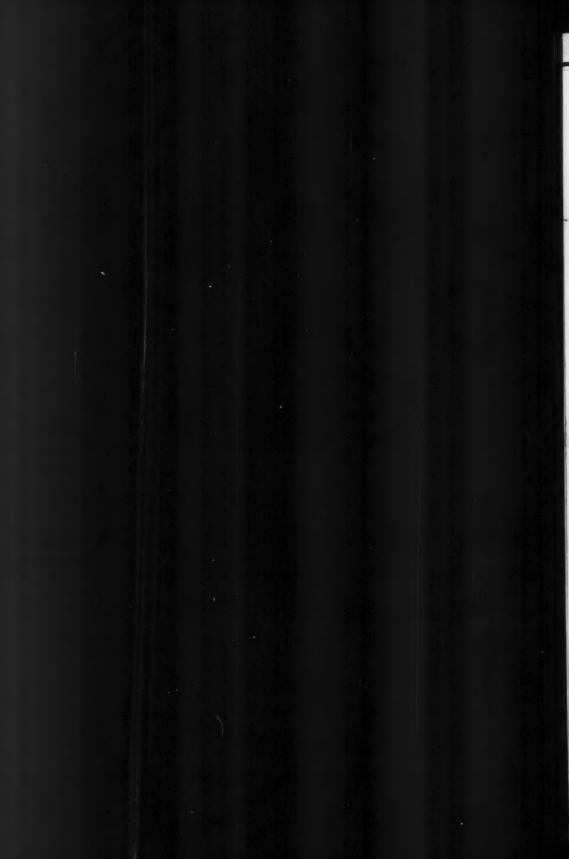
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EXCELSIOR,

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